REVISTA BRASILEIRA DE ENTOMOLOGIA

(Subvencionada pelo Conselho Nacional de Pesquisas)

VOLUME 7

1957

SOCIEDADE BRASILEIRA DE ENTOMOLOGIA
Caixa Postal, 9063 — São Paulo — Brasil

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Genus CALOSTIGMA Shannon

1934. *Callostigma* Curran, Bul. Amer. Mus. Nat. Hist. 66:394.
1927. *Calostigma* Shannon, Proc. U. S. Nat. Mus. 70:8, fig. 5 (type
1941. *Callostigma* Curran, Bul. Amer. Mus. Nat. Hist. 78:257.
1949. *Baccha* (*Calostigma*) Hull, Trans. Zool. Soc. London 26:295.

Region neotropical.

Calostigma annulata Curran

1941. *Callostigma annulata* Curran, Bul. Amer. Mus. Nat. Hist. 78:258.
1949. *Calostigma annulata* Hull, Ent. Amer. 27:106, figs.

Brazil: Nova Teutônia; Argentina: Tucumán.

Calostigma coreopsis Hull

1944. *Calostigma coreopsis* Hull, Rev. de Ent. 15:41.
1949. *Calostigma coreopsis* Hull, Ent. Amer. 27:106, fig.

Peru: El-Encanto, Putumayo, Dist.

Calostigma elnora Shannon

1927. *Calostigma elnora* Shannon, Proc. U. S. Nat. Mus. 70:9.
1949. *Calostigma elnora* Hull, Ent. Amer. 27:106, figs.

Bolivia: Rurrenabaque, Beni.

Calostigma hyalipennis Curran

1930. *Callostigma hyalipennis* Curran, Amer. Mus. Novit. 415:15.
1934. *Callostigma hyalipennis* Curran (= *Callostigma annulata* Curran?), Bul. Amer. Mus. Nat. Hist. 66:395.
1949. *Calostigma hyalipennis* Hull, Ent. Amer. 27:106, figs.

Honduras: Tegucigalpa; Argentina: Tucumán.

Calostigma neuralis Curran

1934. *Callostigma neuralis* Curran (= *Callostigma crocea* Austen?), Bul. Amer. Mus. Nat. Hist. 66:395.
1949. *Calostigma neuralis* Hull, Ent. Amer. 27:106, figs.

Br. Guiana.

Continuação — Catalogue of the family *Syrphidae* in the neotropical Region (Diptera) by C. L. Fluke; Rev. Bras. Ent. 6:193-268, 1956.

Calostigma obliqua Curran

1941. *Callostigma obliqua* Curran, Bul. Amer. Mus. Nat. Hist. 78:258.
1949. *Calostigma obliqua* Hull, Ent. Amer. 27:106, figs.

Canal Zone: Chiva Chiva Trail.

Calostigma panamensis Curran

1930. *Callostigma panamensis* Curran, Amer. Mus. Novit. 416:8.
1934. *Callostigma panamensis* Curran (= *Callostigma crocea* Austen?), Bul. Amer. Mus. Nat. Hist. 66:394.

Panama.

Calostigma serpentina Hull

1950. *Calostigma serpentina* Hull, Rev. de Ent. 21:228.

Peru: Chanchamayo.

Calostigma striata (Walker)

1852. *Ascia striata* Walker, Ins. Saunders, Dipt. 1:221.
1941. *Callostigma striata* Curran, Bul. Amer. Mus. Nat. Hist. 78:258.
1943. *Neoascia striata* Hull, Proc. Ent. Soc. Wash. 45:9.
1949. *Calostigma striata* Hull, Ent. Amer. 27:107, fig.

Brazil.

Genus RHINOPROSOPA Hull

1937. *Oligorhina* Hull (not F. & G.), Psyche 44:30.
1942. *Rhinoprosopa* Hull, Proc. New Eng. Zool. Club 20:23 (type *aenea* Hull).
1949. *Rhinoprosopa* Hull, Trans. Zool. Soc. London 26:298.

Region neotropical.

Rhinoprosopa aenea (Hull)

1937. *Oligorhina aenea* Hull, Psyche 44:31.
1942. *Rhinoprosopa aenea* Hull, Jour. New Eng. Zool. Club 20:24.

Haiti: Desbarriere, Mt. La Hotte.

Rhinoprosopa flavophylla Hull

1943. *Rhinoprosopa flavophylla* Hull, Ent. News 54:139.
1949. *Rhinoprosopa flavophylla* Hull, Ent. Amer. 27:101, fig.

Peru: El Campamiento, Perene Valley.

Rhinoprosopa lucifer Hull

1943. *Rhinoprosopa lucifer* Hull, Jour. Wash. Acad. Sci. 33:216.
1949. *Rhinoprosopa lucifer* Hull, Ent. Amer. 27:101, fig.

Ecuador: Pinas (Amer. Museum).

Rhinoprosopa sycorax Hull

1947. *Rhinoprosopa sycorax* Hull, Psyche 54:239.
1949. *Rhinoprosopa sycorax* Hull, Ent. Amer. 27:101, figs.

Costa Rica: La Suiza (Melander Coll.).

Genus SALPINGOGASTER Schiner

1852. *Amathia* Walker, Ins. Saunders, Dipt. 1:223 (Preoc.).
1868. *Salpingogaster* Schiner, Reise Novara Dipt. 344. (type *pygophora* Schiner).
1886. *Salpingogaster* Williston, U. S. Nat. Mus. Bul. 31:298.
1891. *Salpingogaster* Williston, Biol. Centr. Amer., Dipt. 3:28.
1905. *Salpingogaster* Aldrich, Cat. Dipt. 358.
1932. *Salpingogaster* Curran, Amer. Mus. Novit. 519:5.
1934. *Salpingogaster* Curran, Bul. Amer. Mus. Nat. Hist. 66:396.
1941. *Salpingogaster* Curran, Bul. Amer. Mus. Nat. Hist. 78:283.
1949. *Salpingogaster* and *Eosalpingogaster* Hull, Trans. Zool. Soc. London 26:299.

Region neotropical.

Salpingogaster abdominalis Sack

1920. *Salpingogaster abdominalis* Sack, Zool. Jahrb. Syst. 43:242, fig.

Bolivia.

Salpingogaster bequaerti Curran

1933. *Salpingogaster bequaerti* Curran, Amer. Mus. Novit. 643:2.

Guatemala: Sa Emilia, Pochuta, Patulal.

Salpingogaster bicolor Sack

1920. *Salpingogaster bicolor* Sack, Zool. Jahrb. Syst. 43:250, fig.

Bolivia.

Salpingogaster bipunctifrons Curran

1934. *Salpingogaster bipunctifrons* Curran, Bul. Amer. Mus. Nat. Hist. 66:397.

Br. Guiana: Kartabo.

Salpingogaster browni Curran

1941. *Salpingogaster browni* Curran, Bul. Amer. Mus. Nat. Hist. 78: 286.

Ecuador: Minza Chica, Volcana Tungarahua.

Salpingogaster bruneri Curran

1932. *Salpingogaster bruneri* Curran, Amer. Mus. Novit. 519:6.

Cuba: Sierra Maestra.

Salpingogaster compressa Curran

1941. *Salpingogaster compressa* Curran, Bul. Amer. Mus. Nat. Hist. 78:284.

Brazil: Nova Teutônia; Argentina; Misión Laishi (Formosa).

Salpingogaster conopida (Philippi)

1865. *Baccha conopida* Philippi, Verh. Zool.-Bot. Ges. Wien 15:750.
1883. *Salpingogaster nigriventris* Bigot, Ann. Soc. Ent. France: 329.
1868. *Salpingogaster macula* Schiner, Reise Novara Dipt. 345.
1921. *Salpingogaster nigriventris* Sack, Archv. Naturg. 87:135, fig.
1927. *Baccha conopida* Shannon, Proc. U. S. Nat. Mus. 70:30.
1933. *Salpingogaster conopida* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:135.
1949. *Salpingogaster* (*Eosalpingogaster*) *conopida* Hull, Trans. Zool. Soc. London 26:299.

Chile; Argentina.

Salpingogaster cornutus Hull

1944. *Salpingogaster cornutus* Hull, Bol. de Entom. 3:168.

Venezuela (Viena Museum).

Salpingogaster costalis Bigot

1852. *Salpingogaster costalis* Bigot, Ins. Saunders, Dipt. 1:223.

Brazil.

Salpingogaster cothurnata Bigot

1883. *Salpingogaster cothurnatus* Bigot, Ann. Soc. Ent. France: 329.
1893. *Salpingogaster cothurnatus* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:340.
1905. *Salpingogaster cothurnatus* Aldrich, Cat. Dipt. 358.

Mexico.

Salpingogaster dactylopianus Blanchard

1938. *Salpingogaster dactylopianus* Blanchard, An. Soc. Cient. Argentina 126:348, figs.
1949. *Salpingogaster* (*Eosalpingogaster*) *dactylopianus* Hull, Trans. Zool. Soc. London 26:299.

Argentina.

Salpingogaster diana Hull

1943. *Salpingogaster diana* Hull, Ent. News 54:33.

Brazil.

Salpingogaster flukei Curran

1941. *Salpingogaster flukei* Curran, Bul. Amer. Mus. Nat. Hist. 78:284.

Ecuador: Banos.

Salpingogaster frontalis Sack

1920. *Salpingogaster frontalis* Sack, Zool. Jahrb. Syst. 43:243, figs.

Bolivia.

Salpingogaster gracilis Sack

1920. *Salpingogaster gracilis* Sack, Zool. Jahrb. Syst. 43:251.
1941. *Salpingogaster gracilis* Curran, Bul. Amer. Mus. Nat. Hist. 78: 285.

Brazil: Nova Teutônia; Peru: Vilcanota.

Salpingogaster halcyon Hull

1940. *Salpingogaster halcyon* Hull, Jour. Wash. Acad. Sci. 30:434.

Canal Zone: Barro Colorado Island.

Salpingogaster impura Curran

1941. *Salpingogaster impura* Curran, Bul. Amer. Mus. Nat. Hist. 78: 285.

Brazil: São Paulo.

Salpingogaster limbipennis Williston

1891. *Salpingogaster limbipennis* Williston, Biol. Centr. Amer., Dipt. 3:29.
1905. *Salpingogaster limbipennis* Aldrich, Cat. Dipt. 358.

Mexico: Amula.

Salpingogaster lineata Sack

1920. *Salpingogaster lineata* Sack, Zool. Jahrb. Syst. 43:253, figs.

Bolivia.

Salpingogaster liposeta Fluke

1937. *Salpingogaster liposeta* Fluke, Amer. Mus. Novit. 941:10, fig.

Ecuador; Argentina: Tucumán, La Rioja, Rio Negro.

Salpingogaster maculipennis Hull

1944. *Salpingogaster maculipennis* Hull, Bol. de Entom. Venezolana 3: 166.

South America (Vienna Museum).

Salpingogaster minor Austen

1893. *Salpingogaster minor* Austen, Proc. Zool. Soc. London 1:161, fig.

Brazil.

Salpingogaster nigra Schiner

1868. *Salpingogaster nigra* Schiner, Reise Novara Dipt. 344.
1883. *Salpingogaster anchoratus* Bigot, Ann. Soc. Ent. France: 328.
1888. *Salpingogaster nigra* Williston, Trans. Amer. Ent. Soc. 15:270.
1891. *Salpingogaster nigra* Williston, Biol. Centr. Amer., Dipt. 3:29.
1892. *Salpingogaster nigra* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:22.
1905. *Salpingogaster nigra* Aldrich, Cat. Dipt. 358.

Mexico; Guatemala; Panama; Argentina: Jujuy, Tucumán.

Salpingogaster nigricauda Sack

1920. *Salpingogaster nigricauda* Sack, Zool. Jahrb. Syst. 43:248, fig.

Bolivia.

Salpingogaster nova Giglio-Tos

1892. *Salpingogaster nova* Giglio-Tos, Bol. Mus. Zool. Torino 7:7.
1892. *Salpingogaster nova* Giglio-Tos, Mem. R. Accad. Sci. Torino 43: 23, fig.
1905. *Salpingogaster nova* Aldrich, Cat. Dipt. 358.

Mexico.

Salpingogaster pannamana Hull

1944. *Salpingogaster pannamana* Hull, Psyche 51:33.

Panama: Bella Vista.

Salpingogaster pessulagyna Hull

1941. *Salpingogaster pessulagyna* Hull, Psyche 48:48.

Panama: Barro Colorado.

Salpingogaster petiolata Hull

1944. *Salpingogaster petiolata* Hull, Bol. de Ent. Venezolana 3:165.

Bolivia: Rio Songo (Vienna Museum).

Salpingogaster punctifrons Curran

1929. *Salpingogaster punctifrons* Curran, Ann. Ent. Soc. Amer. 22:493.

Cuba.

Salpingogaster pygophora Schiner

1868. *Salpingogaster pygophora* Schiner, Reise Novara Diptera 344.
1888. *Salpingogaster pygophora* Williston, Trans. Amer. Ent. Soc. 15: 270.
1891. *Salpingogaster pygophora* Williston, Biol. Centr. Amer., Dipt. 3:29.
1905. *Salpingogaster pygophora* Aldrich, Cat. Dipt. 358.
1914. *Salpingogaster pygophora* Hine, Ohio Nat. 14:336.

Cuba; Panama; Brazil; Mexico.

Salpingogaster relicta Curran

1941. *Salpingogaster relicta* Curran, Bul. Amer. Mus. Nat. Hist. 78:285.

Cuba: Pinar del Rio, Vinales.

Salpingogaster stigmatipennis Hull

1940. *Salpingogaster stigmatipennis* Hull, Ent. News 51:250.

Venezuela: Lindig.

Salpingogaster uncinata Hull

1945. *Salpingogaster uncinata* Hull, Ent. News 56:216.

Costa Rica: La Suiza (Melander Coll.).

Salpingogaster urania Hull

1949. *Salpingogaster urania* Hull, Ent. News 60:232.

Peru (Hull Coll.).

Salpingogaster vera Hull

1944. *Salpingogaster vera* Hull, Bol. de Entom. Venezolana 3:169.

Bolivia: Rio Songo (Vienna Museum).

Genus MELANOSTOMA Schiner

1860. *Melanostoma* Schiner, Wien. Ent. Monatsch. 4:213 (type *mellinum* Linneaus).
1862. *Melanostoma* Schiner, Fauna Austr. 1:289.
1886. *Melanostoma* Williston, U. S. Nat. Mus. Bul. 31:46.
1891. *Melanostoma* Williston, Biol. Centr. Amer., Dipt. 3:9.
1891. *Melanostoma* Arribálzaga, An. Soc. Cient. Argentina 32:53.
1901. *Melanostoma* Verrall, Brit. Flies Syrph. 303.
1905. *Melanostoma* Aldrich, Cat. Dipt. 360.
1930. *Melanostoma* Curran, Bul. Amer. Mus. Nat. Hist. 61:64.
1933. *Melanostoma* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:132.
1937. *Melanostoma* Curran, Amer. Mus. Novit. 926:1.
1937. *Pachysphyria, Melanostoma, Carposcalis,* and *Posthonia* Enderlein, Sitz. Gesellsch. Naturf. Fr. Berlin: 196 and 198.

1945. *Melanostoma* and *Talahua* Fluke, Amer. Mus. Novit. 1272: 12 and 23.
1949. *Melanostoma* (*Rhysops, Carposcalis, Talahua, Posthonia,* and *Pachysphyria*) Hull, Trans. Zool. Soc. London 26:300.

Region worldwide.

Melanostoma altissimum Fluke

1945. *Melanostoma altissimum* Fluke, Amer. Mus. Novit. 1272:20, figs. 48 and 49.

Ecuador; Colombia (Amer. Museum).

Melanostoma? annuliferum Bigot

1884. *Melanostoma? annuliferum* Bigot, Ann. Soc. Ent. France: 84.
1891. *?Melanostoma annuliferum* Williston, Biol. Centr. Amer., Dipt. 3:14.
1905. *Melanostoma annuliferum* Aldrich, Cat. Dipt. 79.

Mexico.

Melanostoma? anthracoides Bigot

1884. *Melanostoma? anthracoides* Bigot, Ann. Soc. Ent. France: 82.
1891. *?Ocyptamus anthracoides* Williston, Biol. Centr. Amer., Dipt. 3:14.
1905. *Melanostoma anthracoides* Aldrich, Cat. Dipt. 360.

Panama.

Melanostoma bellum Giglio-Tos

1892. *Melanostoma bellum* Giglio-Tos, Bol. Mus. Zool. Torino 7:3.
1892. *Melanostoma bellum* Giglio-Tos, Mem. R. Accad. Sci. Torino 43: 52, figs.
1907. *Melanostoma bellum* Aldrich, Jour. N. Y. Ent. Soc. 15:5.

Mexico.

Melanostoma bolivariensis Fluke

1945. *Melanostoma bolivariensis* Fluke, Amer. Mus. Novit. 1272:19, figs. 29, 45.

Ecuador (Amer. Museum).

Melanostoma browni Fluke

1945. *Melanostoma browni* Fluke, Amer. Mus. Novit. 1272:18, figs. 27, 28, 44.

Ecuador: Bolivar (Amer. Museum).

Melanostoma chaetopoda Davidson

1922. *Melanostoma chaetopoda* Davidson, Trans. Amer. Ent. Soc. 48:35 (California).

1945. *Melanostoma* (*Carposcalis*) *chaetopoda* Fluke, Amer. Mus. Novit. 1272:14, figs. 19, 56.

Mexico: Mexico City.

Melanostoma chalconotum Philippi

1865. *Syrphus chalconotus* Philippi, Verh. Zool.-Bot. Ges. Wien 15:747.
1945. *Melanostoma* (*Carposcalis*) *chalconotum* Fluke, Amer. Mus. Novit. 1272:15, figs. 22, 23, 38.

Ecuador: Riobamba, Cuenca, Azuay; Colombia: Bogotá; Chile: Santiago; Argentina: Rio Negro, Tierra de Fuego.

Melanostoma columbianum Enderlein

1937. *Melanostoma columbianum* Enderlein, Sitz. Gesellsch. Naturf. Fr. Berlin: 198.
1945. *Melanostoma columbianum* Fluke, Amer. Mus. Novit. 1272:23.

Colombia.

Melanostoma crassicalx (Enderlein)

1937. *Melanostoma* (*Pachysphyria*) *crassicalx* Enderlein, Sitz. Gesellsch. Naturf. Fr. Berlin: 197.

Brazil: Santa Catarina.

Melanostoma? cruciatum Bigot

1884. *Melanostoma? cruciatum* Bigot, Ann. Soc. Ent. France: 81.

Mexico.

Melanostoma discretum Frey

1945. *Melanostoma discretum* Frey, Notulae Entom. 25:157.

Brazil: Nova Teutônia.

Melanostoma ecuadoriensis Fluke

1945. *Melanostoma* (*Carposcalis*) *ecuadoriensis* Fluke, Amer. Mus. Novit. 1272:16, figs. 25, 29.

Ecuador.

Melanostoma edwardsi Shannon & Aubertin

1933. *Melanostoma edwardsi* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:133.
1945. *Melanostoma edwardsi* Fluke, Amer. Mus. Novit. 1272:24.

Argentina: Bariloche.

Melanostoma elegans Giglio-Tos

1892. *Melanostoma elegans* Giglio-Tos, Boll. Mus. Zool. Torino 7:2.
1893. *Melanostoma elegans* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:357, tab. 2, fig. 21.
1905. *Melanostoma elegans* Aldrich, Cat. Dipt. 360.

Mexico.

Melanostoma fenestratum (Macquart)

1842. *Syrphus fenestratum* Macquart, Dipt. Exot. 2, 2:103, tab. 17, fig. 6.
1852. *Syrphus fenestratus* Blanchard, Gay's Hist. fis. y polit. de Chile 7:413.
1865. *Syrphus fenestratus* Philippi, Verh. Zool.-Bot. Ges. Wien 15:746.
1891. *Melanostoma fenestratum* Williston, Biol. Centr. Amer., Dipt. 3:10.
1927. *Melanostoma fenestratum* Shannon, Proc. U. S. Nat. Mus. 70:23.
1937. *Melanostoma fenestratum* Curran, Amer. Mus. Novit. 926:3.
1945. *Melanostoma* (*Carposcalis*) *fenestratum* Fluke, Amer. Mus. Novit. 1272:15, figs. 21, 57.

Brazil: Rio de Janeiro; Argentina: Miramar, Chubut, Neuquén, Mendoza, Rio Negro, Tucumán; Mexico: Omilteme, Ciudad; Paraguay; Chile: Angol, Santiago.

Melanostoma fervidum Fluke

1945. *Melanostoma* (*Talahua*) *fervidum* Fluke, Amer. Mus. Novit. 1272:23, figs. 34, 36, 53.

Ecuador: Bolivar (Amer. Museum).

Melanostoma inflatifrons Fluke

1945. *Melanostoma inflatifrons* Fluke, Amer. Mus. Novit. 1272:21, fig. 31.

Ecuador: Bolivar.

Melanostoma limbatum Enderlein

1937. *Melanostoma limbatum* Enderlein, Sitz. Gesellsch. Naturf. Fr. Berlin: 198.
1945. *Melanostoma limbatum* Fluke, Amer. Mus. Novit. 1272:23.

Argentina.

Melanostoma longipenis (Enderlein)

1937. *Posthonia longipenis* Enderlein, Sitz. Gesellsch. Naturf. Fr. Berlin: 203.
1949. *Melanostoma longipenis* Hull, Trans. Zool. Soc. London 26:300.

Colombia.

Melanostoma luculentum Fluke

1945. *Melanostoma luculentum* Fluke, Amer. Mus. Novit. 1272:17, figs. 26, 46.

Ecuador: Banos, Pundoa.

Melanostoma lundbladi (Enderlein)

1940. *Carposcalis lundbladi* Enderlein, Skotts. Nat. Hist. Juan Fernandez and Easter Island 3:665.
1945. *Melanostoma lundbladi* Fluke, Amer. Mus. Novit. 1272:24.

Juan Fernandez: Masatierra.

Melanostoma mellinum (Linneaus)

1758. *Musca mellina* Linneaus, Syst. Naturae 10:594.
1822. *Syrphus melliturgus* Meigen, Syst. Beschr. 3:239.
1829. *Syrphus melliturgus* Macquart, Dipt. Exot. 4 Suppl.: 152.
1886. *Melanostoma mellinum* Williston, Bul. U. S. Nat. Mus. 31:49, tab. 3, fig. 9.
1891. *Melanostoma mellinum* Williston, Biol. Centr. Amer., Dipt. 3:11.
1901. *Melanostoma mellinum* Verrall, Brit. Flies 8:51.
1905. *Melanostoma mellinum* Aldrich, Cat. Dipt. 361.
1910. *Melanostoma mellinum* Kertész Cat. Dipt.: 82.

Mexico; South America; probably worldwide.

Melanostoma meyeri Fluke

1945. *Melanostoma meyeri* Fluke, Amer. Mus. Novit. 1272:17, fig. 24.

Mexico: Mexico City.

Melanostoma neotropicum Curran

1937. *Melanostoma neotropicum* Curran, Amer. Mus. Novit. 926:4.
1945. *Melanostoma neotropicum* Fluke, Amer. Mus. Novit. 1272:18.
1945. *Rhysops? columella* Fluke, Amer. Mus. Novit. 1272: 8.

Brazil: São Paulo; Argentina: Santa Ana (Misiones), Jujuy.

Melanostoma palliatum Fluke

1945. *Melanostoma palliatum* Fluke, Amer. Mus. Novit. 1272:22, figs. 33, 35, 51, 52.

Ecuador: Tungurahua, Bolivar.

Melanostoma pictipes Bigot

1885. *Melanostoma pictipes* Bigot, Ann. Soc. Ent. France 4:78.
1945. *Melanostoma pictipes* Fluke, Amer. Mus. Novit. 1272:13.

Mexico: Mexico City; Utah.

Melanostoma productus (Macquart)

1850. *Syrphus productus* Macquart, Dipt. Exot. 4 Suppl.: 154.
1852. *Syrphus productus* Blanchard, Gay's Hist. fis. polit. Chile, Zool. 7:412.
1945. *Melanostoma productus* Fluke, Amer. Mus. Novit. 1272:25.

Chile.

Melanostoma pruinosum (Bigot)

1884. *Melanostoma ?pruinosa* Bigot, Ann. Soc. Ent. France: 79.
1891. *Melanostoma pruinosum* Williston, Biol. Centr. Amer., Dipt. 3:11.

Mexico: Sierra de las Aguas Escondidas.

Melanostoma punctulatum Wulp

1888. *Melanostoma punctulatum* Wulp, Tijd. v. Ent. 31:375.
1937. *Melanostoma punctulatum* Curran, Amer. Mus. Novit. 926:2.
1945. *Melanostoma* (*Carposcalis*) *punctulatum* Fluke, Amer. Mus. Novit. 1272:14, figs. 20, 58.

Ecuador; Chile; Brazil: São Paulo; Argentina: Tucumán, Catamarca, La Rioja, Jujuy, Mendoza, Buenos Aires, Rio Negro, Neuquén; Bolivia; Peru.

Melanostoma? quadrinotatum Bigot

1884. *Melanostoma? quadrinotatum* Bigot, Ann. Soc. Ent. France: 77.
1891. *Melanostoma quadrinotatum* Williston, Biol. Centr. Amer., Dipt. 3:14.
1905. *Melanostoma? quadrinotatum* Aldrich, Cat. Dipt. 361.

Mexico.

Melanostoma rex Fluke

1945. *Melanostoma rex* Fluke, Amer. Mus. Novit. 1272:21, figs.

Ecuador: Bolivar.

Melanostoma reynoldsi Shannon & Aubertin

1933. *Melanostoma reynoldsi* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:134.
1945. *Melanostoma reynoldsi* Fluke, Amer. Mus. Novit. 1272:24.

Argentina: Estancia Viamonte.

Melanostoma saltanum (Enderlein)

1937. *Carposcalis saltana* Enderlein, Sitz. Gesellsch. Naturf. Fr. Berlin: 200.
1945. *Melanostoma* (*Carposcalis*) *saltanum* Fluke, Amer. Mus. Novit. 1272:15.

Argentina: Salta, Buenos Aires, Rio Negro; Ecuador.

Melanostoma scutigerum Fluke

1945. *Melanostoma scutigerum* Fluke, Amer. Mus. Novit. 1272:20, fig. 30.

Ecuador: Pichincha, Uyumbicho.

Melanostoma stegnum (Say)

1829. *Syrphus stegnus* Say, Jour. Acad. Phil. 6:163.
1859. *Syrphus stegnus* Say, Compl. Wr. 2:358.
1877. *Melanostoma tigrina* Osten Sacken, Bul. U. S. Geol. & Geog. Surv. 3:323.
1886. *Melanostoma tigrinum* Williston, U. S. Nat. Mus. Bul. 31:47, tab. 3, fig. 8.
1891. *Melanostoma stegnum* Williston, Biol. Centr. Amer., Dipt. 3:10.
1910. *Melanostoma stegnum* Kertész, Cat. Dipt.: 86
1937. *Carposcalis stegna* and var. *chalconota* Enderlein, Sitz. Gesellsch. Naturf. Fr. Berlin: 200.
1945. *Melanostoma* (*Carposcalis*) *stegnum* Fluke, Amer. Mus. Novit. 1272:14, figs. 18, 55.

California; Mexico: Omitleme, Amula, Ciudad, Orizaba.

Melanostoma tropicum Curran

1937. *Melanostoma tropicum* Curran, Amer. Mus. Novit. 926:3.
1945. *Melanostoma tropicum* Fluke, Amer. Mus. Novit. 1272:17.

Brazil: São Paulo; Ecuador: Banos; Argentina: prov. Tucumán.

Genus RHYSOPS Williston

1907. *Rhysops* Williston, Jour. N. Y. Ent. Soc. 15:2 (type *rugosonasus* Williston).
1922. *Braziliana* Shannon, Bul. Brook. Ent. Soc. 17:34.
1925. *Braziliana* Curran, Ann. Mag. Nat. Hist. (9) 16:252.
1927. *Braziliana* Shannon, Proc. U. S. Nat. Mus. 70:7.
1937. *Rhysops* Curran, Amer. Mus. Novit. 926:1.
1937. *Braziliana* Enderlein, Sitz. Gesellsch. Naturf. Fr. Berlin: 201.
1945. *Rhysops* Fluke, Amer. Mus. Novit. 1272:2.
1949. *Melanostoma* (*Rhysops*) Hull, Trans. Zool. Soc. London 26:300.

Region neotropical.

Rhysops berthae Costa Lima

1946. *Rhysops berthae* Costa Lima, Bol. Soc. Bras. Agronomia (Rio de Janeiro) 9:155, figs.

Brazil: Rio de Janeiro (Escola Nat. Agron.).

Rhysops catabomba (Williston)

1891. *Melanostoma catabombum* Williston, Biol. Centr. Amer., Dipt. 3:12.
1892. *Melanostoma catabomba* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:38.

1905. *Melanostoma catabomba* Aldrich, Cat. Dipt. 360.
1937. *Rhysops catabomba* Curran, Amer. Mus. Novit. 926:2.
1945. *Rhysops catabomba* Fluke, Amer. Mus. Novit. 1272:5, fig. 2.

Mexico: Guerrero.

Rhysops columbiana (Enderlein)

1937. *Braziliana columbiana* Enderlein, Sitz. Gesellsch. Naturf. Fr. Berlin: 202.
1945. *Rhysops columbiana* Fluke, Amer. Mus. Novit. 1272:5.

Colombia.

Rhysops columella Fluke

1945. *Rhysops columella* Fluke, Amer. Mus. Novit. 1272:8, figs. 9, 39, 40.

Brazil: Nova Teutônia, São Vicente, E. do Rio, Nova Friburgo; Argentina: Siambon (Tucumán).

Rhysops crenulata (Williston)

1891. *Melanostoma crenulatum* Williston, Biol. Centr. Amer., Dipt. 3:12.
?1892. *Melanostoma crenulatum* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:40.
1905. *Melanostoma crenulatum* Aldrich, Cat. Dipt. 360.
1937. *Rhysops crenulata* Curran, Amer. Mus. Novit. 926:2.
1945. *Rhysops crenulata* Fluke, Amer. Mus. Novit. 1772:5, fig. 3.
1945. *Rhysops crenulata* Frey, Notulae Entom. 25:156.

Mexico.

Rhysops currani Fluke

1937. *Rhysops currani* Fluke, Amer. Mus. Novit. 941:8.
1945. *Rhysops currani* Fluke, Amer. Mus. Novit. 1272:9, fig. 10.

S. Brazil.

Rhysops fastigata Fluke

1945. *Rhysops fastigata* Fluke, Amer. Mus. Novit. 1272:4, figs. 4, 37.

Brazil: Nova Teutônia; Argentina: Villa Nouges (Tucumán).

Rhysops festiva Fluke

1945. *Rhysops festiva* Fluke, Amer. Mus. Novit. 1272:10, figs. 13, 42.

Ecuador: Banos.

Rhysops funerea Hull

1949. *Rhysops funerea* Hull, Bul. Brook. Ent. Soc. 44:74.

Brazil: Nova Teutônia.

Rhysops lanei (Fluke)

1936. *Melanostoma lanei* Fluke, Jour. Kans. Ent. Soc. 9:61.
1937. *Rhysops lanei* Curran, Amer. Mus. Novit. 926:2.
1942. *Rhysops lachrymellea* Hull, Jour. Kans. Ent. Soc. 15:10.
1945. *Rhysops lanei* Fluke, Amer. Mus. Novit. 1272:10, fig. 14.

Brazil: São Paulo, Nova Teutônia; Argentina: Formosa, Salta, Tucumán.

Rhysops lineata (Fluke)

1937. *Melanostoma lineata* Fluke, Amer. Mus. Novit. 941:9.
1945. *Rhysops lineata* Fluke, Amer. Mus. Novit. 1272:7, fig. 7.

Brazil: Nova Teutônia.

Rhysops longicornis (Williston)

1888. *Melanostoma longicornis* Williston, Trans. Amer. Ent. Soc. 15:263.
1925. *Braziliana longicornis* Curran, Ann. Mag. Nat. Hist. (9) 16:252.
1937. *Braziliana vittithorax* Hull, Jour. Wash. Acad. Sci. 27:176.
1937. *Rhysops longicornis* Curran, Amer. Mus. Novit. 926:2.
1945. *Rhysops longicornis* Fluke, Amer. Mus. Novit. 1272:3, fig. 1.

Colombia; Ecuador: Puyo, Oriente; Brazil: Chapada, Nova Teutônia; Paraguay.

Rhysops lopesi Fluke

1945. *Rhysops lopesi* Fluke, Amer. Mus. Novit. 1272:6, fig. 5.

Brazil: S. José dos Campos.

Rhysops melanocera (Williston)

1891. *Melanostoma melanocera* Williston, Biol. Centr. Amer., Dipt. 3:13.
1905. *Melanostoma melanocera* Aldrich, Cat. Dipt. 361.
1907. *Rhysops melanocera* Williston, Jour. N. Y. Ent. Soc. 15:2.
1937. *Rhysops melanocera* Curran, Amer. Mus. Novit. 926:2.

Costa Rica.

Rhysops minuscula Fluke

1945. *Rhysops minuscula* Fluke, Amer. Mus. Novit. 1272:11, figs. 16, 17, 47.

Brazil: Nova Teutônia; Argentina: Tucumán.

Rhysops nigrans Fluke

1945. *Rhysops nigrans* Fluke, Amer. Mus. Novit. 1272:8, fig. 8.

Brazil: Nova Teutônia, Santa Catarina.

Rhysops opaca Fluke

1945. *Rhysops opaca* Fluke, Amer. Mus. Novit. 1272:10, fig. 15.

Ecuador: Urbina, Cerro Chimborazo.

Rhysops peruviana (Shannon)

1927. *Braziliana peruviana* Shannon, Proc. U. S. Nat. Mus. 70:7.
1937. *Rhysops peruviana* Curran, Amer. Mus. Novit. 926:2.
1945. *Rhysops peruviana* Fluke, Amer. Mus. Novit. 1272:4.

Peru.

Rhysops pollinosa Hull

1942. *Rhysops pollinosa* Hull, Jour. Kans. Ent. Soc. 15:10.
1945. *Rhysops pollinosa* Fluke, Amer. Mus. Novit. 1272:9, fig. 11.

Brazil: São Paulo; Argentina: Salta, Tucumán.

Rhysops quadrimaculata Hull

1944. *Rhysops quadrimaculata* Hull, Psyche 51:28.
1945. *Rhysops quadrimaculata* Fluke, Amer. Mus. Novit. 1272:9. figs. 12, 41.

Cuba; Dominican Rep.: Loma Vieja, S. Constanza.

Rhysops rugosonasus (Williston)

1891. *Melanostoma rugosonasus* Williston, Biol. Centr. Amer., Dipt. 3:3.
1905. *Melanostoma rugonasus* Aldrich, Cat. Dipt. 361.
1907. *Rhysops rugonasus* Williston, Jour. N. Y. Ent. Soc. 15:2.
1910. *Rhysops rugonasus* Coquillett, Proc. U. S. Nat. Mus. 37:13.
1937. *Rhysops rugonasus* Curran, Amer. Mus. Novit. 926:1.
1945. *Rhysops rugosonasus* Fluke, Amer. Mus. Novit. 1272:7, fig. 6.

Mexico: Mexico City.

Rhysops scitula (Williston)

1888. *Melanostoma scitulum* Williston, Trans. Amer. Ent. Soc. 15:264.
1937. *Rhysops scitula* Curran, Amer. Mus. Novit. 926:2.
1945. *Rhysops scitula* Fluke, Amer. Mus. Novit. 1272:7, figs. 43, 54.

Brazil: Chapada.

Rhysops thiemei (Enderlein)

1937. *Braziliana thiemei* Enderlein, Sitz. Gesellsch. Naturf. Fr. Berlin: 201.
1945. *Rhysops thiemei* Fluke, Amer. Mus. Novit. 1272:5.

Colombia.

Genus *XANTHANDRUS* Verral

1901. *Xanthandrus* Verrall, Brit. Flies 8:316 (type *comptus* Harris).
1922. *Melanostoma* (*Xanthandrus*) Shannon, Bul. Brook. Ent. Soc. 17:34.
1930. *Xanthandrus* Curran, Bul. Amer. Mus. Nat. Hist. 61:66.
1936. *Xanthandrus* Fluke, Jour. Kans. Ent. Soc. 9:62.
1937. *Xanthandrus* Fluke, Amer. Mus. Novit. 941:6.
1949. *Xanthandrus* Hull, Trans. Zool. Soc. London 26:299.

Regions: palearctic, neotropical, ethiopian, oriental.

Xanthandrus biguttatus Hull

1945. *Xanthandrus biguttatus* Hull, Proc. New Eng. Zool. Club 23:73.

Paraguay: Molinescue (Mus. Comp. Zool.).

Xanthandrus bucephalus (Wiedemann)

1830. *Syrphus bucephalus* Wiedemann, Ausser. Zweif. Ins. 2:126.
1888. *Melanostoma bucephalus* Williston, Trans. Amer. Ent. Soc. 15:264.
1891. *Melanostoma bucephalus* Williston, Biol. Centr. Amer., Dipt. 3:11.
1891. *Syrphus bucephalus* Arribálzaga, An. Soc. Cient. Argentina 32:74.
1892. *Melanostoma bucephalus* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:341.
1905. *Melanostoma bucephalus* Aldrich, Cat. Dipt. 360.
1907. *Xanthandrus bucephalus* Williston, Jour. N. Y. Ent. Soc. 15:2.

Region neotropical.

Xanthandrus cubana Fluke

1936. *Xanthandrus cubana* Fluke, Jour. Kans. Ent. Soc. 9:63, figs. 6, 7.

Cuba: Oriente, Sierra Maestra; Puerto Rico.

Xanthandrus euceratum (Bigot)

1884. *Melanostoma euceratum* Bigot, Ann. Soc. Ent. France: 82.
1937. *Xanthandrus euceratum* Curran, Amer. Mus. Novit. 926:2.

Venezuela; Mexico.

Xanthandrus flavomaculatus Shannon

1927. *Xanthandrus flavomaculatus* Shannon, Proc. U. S. Nat. Mus. 70:6.
1937. *Xanthandrus flavomaculatus* Fluke, Amer. Mus. Novit. 941:7, fig.

Bolivia: Beni, Rurrenabaque.

Xanthandrus mexicanus Curran

1930. *Xanthandrus mexicanus* Curran, Amer. Mus. Novit. 416:9.

Mexico: Chichen Itza, Yucatan.

Xanthandrus nitidulus Fluke

1937. *Xanthandrus nitidulus* Fluke, Amer. Mus. Novit. 941:7, fig. (= *bucephalus*?).

Brazil; Argentina: Jujuy, Salta.

Xanthandrus plaumanni Fluke

1937. *Xanthandrus plaumanni* Fluke, Amer. Mus. Novit. 941:8, fig.

Brazil.

Genus *TUBERCULANOSTOMA* Fluke

1943. *Tuberculanostoma* Fluke, Ann. Ent. Soc. Amer. 36:425 (type *antennatum* Fluke).
1949. *Tuberculanostoma* Hull, Trans. Zool. Soc. London 26:301.

Region neotropical.

Tuberculanostoma antennatum Fluke

1943. *Tuberculanostoma antennatum* Fluke, Ann. Ent. Soc. Amer. 36:426, figs.

Ecuador.

Tuberculanostoma browni Fluke

1943. *Tuberculanostoma browni* Fluke, Ann. Ent. Soc. Amer. 36:429, figs.

Ecuador.

Tuberculanostoma cilium Fluke

1943. *Tuberculanostoma cilium* Fluke, Ann. Ent. Soc. Amer. 36:428.

Ecuador.

Tuberculanostoma pectinis Fluke

1943. *Tuberculanostoma pectinis* Fluke, Ann. Ent. Soc. Amer. 36:430, figs.

Ecuador.

Genus *PARAGUS* Latreille

1804. *Paragus* Latreille, Hist. Nat. Crust. Ins. 14:359 (type *bicolor* Fabricius).
1822. *Paragus* Meigen, Syst. Beschr. Eur. Zweif. 3:176.
1862. *Paragus* Schiner, Fauna Austr. 1:256.
1886. *Paragus* Williston, U. S. Nat. Mus. Bul. 31:17.
1905. *Paragus* Aldrich, Cat. Dipt. 351.

1949. *Paragus* Hull, Trans. Zool. Soc. London 26:301.

Regions: neotropical?, ethiopian, oriental, australian, holarctic.

Paragus tibialis (Fallen)

1817. *Pipiza tibialis* Fallen, Syrphici: 60.
1822. *Paragus hoemoohous, aeneus, obscurus, tibialis,* and *femoratus* Meigen, Syst. Beschr. Eur. Zweif. 3:182.
1843. *Paragus tibialis, trianguliferus* and *aeneus* Zetterstedt, Dipt. Scand. 2:852-854.
1862. *Paragus tibialis* Schiner, Fauna Austr. 1:257.
1863. *Paragus dimidiatus* Loew, Berl. Ent. Zeitsch. 4:63.
1891. *Paragus dimidiatus* Williston, Biol. Centr. Amer., Dipt. 3:5.

U.S.A.; Mexico; Europe.

Genus *ARGENTINOMYIA* Arribálzaga

1891. *Argentinomyia* Arribálzaga, An. Soc. Cient. Argentina 32:40 (type *testaceipes* Arribálzaga).
1933. *Argentinomyia* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:122.
1949. *Argentinomyia* Hull, Trans. Zool. Soc. London 26:302.

Region neotropical.

Argentinomyia grandis Arribálzaga

1891. *Argentinomyia grandis* Arribálzaga, An. Soc. Cient. Argentina 32:156.

Argentina: Misiones.

Argentinomyia testaceipes Arribálzaga

1891. *Argentinomyia testaceipes* Arribálzaga, An. Soc. Cient. Argentina 32:41, fig. 4.

Argentina: Buenos Aires.

Subfamily *CHRYSOTOXINAE*

Genus *CHRYSOTOXUM* Meigen

1803. *Chrysotoxum* Meigen, Illiger's Mag. 2:275 (type *bicinctum* Linneaus).
1822. *Chrysotoxum* Meigen, Syst. Besch. Zweif. Ins. 3:166.
1856. *Ubristes* Walker, Dipt. Saund. 217.
1862. *Chrysotoxum* Schiner, Fauna Austr. 1:252.
1886. *Chrysotoxum* Williston, U. S. Nat. Mus. Bul. 31:13.
1905. *Chrysotoxum* Aldrich, Cat. Dipt. 347.
1924. *Chrysotoxum* Curran, Can. Ent. 56:34.
1926. *Chrysotoxum* Shannon, Proc. U. S. Nat. Mus. 69:1-50.
1949. *Chrysotoxum* Hull, Trans. Zool. Soc. London 26:304.

Regions: palaearctic, nearctic, neotropical, ethiopian, oriental, holarctic.

Chrysotoxum aztec Shannon

1892. *Chrysotoxum integrum* Giglio-Tos, (not Williston), Mem. R. Accad. Sci. Torino 43:10.
1926. *Chrysotoxum aztec* Shannon, Proc. U. S. Nat. Mus. 69:8.

Mexico.

Chrysotoxum integrum Williston

1886. *Chrysotoxum integre* Williston, U. S. Nat. Mus. Bull. 31:16.
1891. *Chrysotoxum integre* Williston, Biol. Centr. Amer., Dipt. 3:5.
1892. *Chrysotoxum integrum* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:39.
1905. *Chrysotoxum integrum* Aldrich, Cat. Dipt. 347.
1926. *Chrysotoxum integrum* Shannon, Proc. U. S. Nat. Mus. 69:11.

Mexico: N. Sonora.

Chrysotoxum nigritum (Fabricius)

1794. *Syrphus nigrita* Fabricius, Ent. Syst. 4:292.
1805. *Mulio nigrita* Fabricius, Syst. Antl.: 183.
1830. *Chrysotoxum nigrita* Wiedemann, Ausser. Zweif. Ins. 2:88.
1905. *Chrysotoxum nigritum* Aldrich, Cat. Dipt. 348.

Jamaica.

Subfamily *MICRODONTINAE*

Genus *MICRODON Meigen*

1803. *Microdon* Meigen, Illiger's Mag. 2:275 (type *mutabilis* Linneaus).
1805. *Aphritis* Latreille, Hist. Nat. Crust. et Ins. 14:358.
1822. *Microdon* Meigen, Syst. Beschr. 3:162.
1838. *Dimeraspis* Newman, Ent. Mag. 5:372.
1849. *Mesophila* Walker, List, etc. 4:1157.
1862. *Microdon* Schiner, Fauna Austr. 1:249.
1886. *Microdon* Williston, U. S. Nat. Mus. Bul. 31:3.
1891. *Microdon* Williston, Biol. Centr. Amer., Dipt. 3:2.
1891. *Omegasyrphus* Giglio-Tos, Boll. Mus. Zool. Torino 4:4.
1892. *Omegasyrphus* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:38.
1892. *Omegasyrphus* Giglio-Tos, Ditt. del Mess. 1:38.
1908. *Microdon* Wheeler, Jour. N. Y. Ent. Soc. 16:202.
1917. *Microdon* Knab, Proc. Biol. Soc. Wash. 30:133.
1924. *Microdon* and *Eumicrodon* Curran, Kans. Univ. Sci. Bul. 15:46. and 50.
1927. *Microdon* Shannon, Proc. U. S. Nat. Mus. 70:18.
1934. *Microdon* Curran, Bul. Amer. Mus. Nat. Hist. 66:375.
1936. *Microdon* Curran, Amer. Mus. Novit. 882:1.
1937. *Microdon* (*Stenomicrodon, Chrysidimyia* and *Syrphipogon*) Hull, Psyche 44: 26, 116 and 120.
1940. *Microdon* Curran, Amer. Mus. Novit. 1086:1.
1941. *Microdon* Curran, Bul. Amer. Mus.Nat. Hist. 78:247.
1945. *Microdon* (*Stipomorpha*) Hull, Proc. New Eng. Zool. Club 23:74.
1949. *Microdon* Hull, Trans. Zool. Soc. London 26:308.

Region worldwide.

Microdon abnormis Curran

1925. *Microdon abnormis* Curran, Ann. Mag. Nat. Hist. (9) 16:345.
Venezuela.

Microdon angulata Hull

1943. *Microdon angulata* Hull, Ann. Mag. Nat. Hist. (11) 10:715.
Amazon: "Ega".

Microdon angustiventris (Macquart)

1855. *Aphritis augustiventris* Macquart, Dipt. Exot. 5 Suppl.: 105.
1934. *Microdon augustiventris* Curran, Bul. Amer. Mus. Nat. Hist. 66:378.
Br. Guiana: Kartabo.

Microdon angustus (Macquart)

1846. *Aphritis angustus* Macquart, Dipt. Exot. 1 Suppl.: 122.
1914. *Microdon angustus* Hine, Ohio Nat. 14:333.
1934. *Microdon angustus* Curran, Bul. Amer. Mus. Nat. Hist. 66:378.
Br. Guiana: Bartica.

Microdon apiculus Curran

1930. *Microdon apiculus* Curran, Amer. Mus. Novit. 416:5.
Panama: Barro Colorado Island.

Microdon aquilinus Giglio-Tos

1892. *Microdon aquilinus* Giglio-Tos, Boll. Mus. Zool. Torino 7:2.
1892. *Microdon aquilinus* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:37.
1905. *Microdon aquilinus* Aldrich, Cat. Dipt. 345.
Mexico.

Microdon arcuata Curran

1941. *Microdon arcuata* Curran, Bul. Amer. Mus. Nat. Hist. 78:250.
Brazil: Nova Teutônia.

Microdon argentinae Hull

1936. *Microdon argentinae* Hull, Psyche 44:18, pl. 2, fig. 5.
Argentina: Córdoba.

Microdon aureoscutum Hull

1943. *Microdon aureoscutum* Hull, Ann. Mag. Nat. Hist. (11) 10:709.
Amazons.

Microdon aureus Hull

1944. *Microdon aureus* Hull, Psyche 51:35.

Ecuador: Oriente, Rio Naxo, Jatun Yacu.

Microdon aurifacia Hull

1937. *Microdon aurifacia* Hull, Jour. Wash. Acad. Sci. 27:169.

Peru: Itaquaquecetuba.

Microdon aurifascia Hull

1944. *Microdon aurifascia* Hull, Ann. Mag. Nat. Hist. (11) 11:245.

Brazil: Alto da Serra, São Paulo.

Microdon aurifex Wiedemann

1830. *Microdon aurifex* Wiedemann, Ausser. Zweif. Ins. 2:85.
1834. *Chymophila splendens* Macquart, Hist. Nat. Dipt. 1:10.
1842. *Aphritis aurifex* Macquart, Dipt. Exot. 2. 2:11, tab. 2, fig. 2.
1851. *Microdon trochilus* Walker, Ins. Saunders Dipt. 1:216.
1875. *Microdon aurifex* Osten Sacken, Bul. Buff. Soc. Nat. Hist. 3:42.
1886. *Microdon aurifex* Williston, U. S. Nat. Mus. Bul. 31:9 and 12.
1888. *?Microdon* sp., Williston, Trans. Amer. Ent. Soc. 15:258.
1891. *Microdon aurifex* Williston, Biol. Centr. Amer., Dipt. 3:2,
1905. *Microdon aurifex* Aldrich, Cat. Dipt. 345.
1924. *Microdon (Eumicrodon) aurifex* Curran, Kans. Univ. Sci. Bul. 15:52.

Brazil; Mexico: Omilteme, Xucumanatlan, Cuernavaca.

Microdon aurigaster Hull

1941. *Microdon aurigaster* Hull, Psyche 48:160.

Bolivia: Province Sara.

Microdon aurulentus (Fabricius)

1805. *Mulio aurulenta* Fabricius, Syst. Antl.: 185.
1830. *Microdon aurulentus* Wiedemann, Ausser. Zweif. Ins. 2:86.
1842. *Aphritis aurulentus* Macquart, Dipt. Exot. 2, 2:12.
1886. *Microdon aurulentus* Williston, U. S. Nat. Mus. Bul. 31:11.
1892. *Microdon aurulentus* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:35.
1892. *Microdon crassitarsis* Arribálzaga, An. Soc. Cient. Argentina 32:126.
1897. *Aphritis crassitarsis* Macquart, Dipt. Exot. 2 Suppl.: 38.
1905. *Microdon aurulentus* Aldrich, Cat. Dipt. 345.
1924. *Microdon aurulentus* Curran, Kans. Univ. Sci. Bul. 15:80, pl. 5.

Mexico; Argentina; Brazil; Uruguay.

Microdon baliopterus Loew

1876. *Microdon baliopterus* Loew, Berl. Ent. Zeitsch. 10:86.
1886. *Microdon baliopterus* Williston, U. S. Nat. Mus. Bul. 31:5, tab. 1, fig. 2.
1891. *Microdon baliopterus* Williston, Biol. Centr. Amer., Dipt. 3:3.
1895. *Omegasyrphus baliopterus* Johnson, Proc. Acad. Nat. Sci. Phil.: 303.
1905. *Microdon baliopterus* Aldrich, Cat. Dipt. 345.
1924. *Microdon baliopterus* Curran, Kans. Univ. Sci. Bul. 15:87, pls. 5 and 9.
1944. *Microdon* (*Omegasyrphus*) *baliopterus* var. *brunnipennis* Hull, Jour. Wash. Acad. Sci. 34:400.

U.S.A.; Guatemala; Mexico: Amula, Teapa, Temax.

Microdon banksi Hull

1942. *Microdon banksi* Hull, Psyche 42:91.

Cuba: Pico Turquino.

Microdon barbiellinii Curran

1936. *Microdon barbiellinii* Curran, Amer. Mus. Novit. 882:6.

Brazil: São Paulo.

Microdon barbouri Hull

1942. *Microdon barbouri* Hull, Psyche 49:89.

Brazil: Parana, Paranagua.

Microdon bassleri Curran

1940. *Microdon bassleri* Curran, Amer. Mus. Novit. 1086:10.

Peru: Rio Ucayali.

Microdon batesi Shannon

1927. *Microdon batesi* Shannon, Proc. U. S. Nat. Mus. 70:22.

Brazil: Amazon.

Microdon bidens (Fabricius)

1805. *Mulio bidens* Fabricius, Syst. Antl.: 185.
1830. *Microdon bidens* Wiedemann, Ausser. Zweif. Ins. 2:84.
1891. *Microdon bidens* Arribálzaga, An. Soc. Cient. Argentina 32:128.
1914. *Microdon bidens* Hine, Ohio Nat. 14:333.

South America.

Microdon biluminifera Hull

1944. *Microdon* (*Omegasyrphus*) *biluminifera* Hull, Jour. Wash. Acad. Sci. 34:399.

Brazil: Espirito Santo (Vienna Naturh. Museum).

Microdon bispina Hull

1943. *Microdon bispina* Hull, Ann. Mag. Nat. Hist. (11) 10:707.

Brazil: São Paulo.

Microdon bonariensis Arribálzaga

1891. *Microdon bonariensis* Arribálzaga, An. Soc. Cient. Argentina 32:35.

Argentina: Buenos Aires.

Microdon bruesi Hull

1945. *Microdon bruesi* Hull, Proc. New Eng. Zool. Club. 23:77.

Haiti (Mus. Comp. Zool.).

Microdon brutus Hull

1944. *Microdon brutus* Hull, Rev. de Ent. 15:37.

Brazil: Bahia, Igrapiuna.

Microdon caesar Curran

1940. *Microdon caesar* Curran, Amer. Mus. Novit. 1086:10.

Brazil: Nova Teutônia.

Microdon carinifacies Curran

1934. *Microdon carinifacies* Curran, Bul. Amer. Mus. Nat. Hist. 66:376.

Br. Guiana: Kartabo.

Microdon cerioides Hull

1943. *Microdon cerioides* Hull, Ann. Mag. Nat. Hist. (11) 10:716.

Paraguay: San Bernardine.

Microdon chrysidimima (Hull)

1937. *Chrysidimyia chrysidimima* Hull, Psyche 44:116.
1938. *Chrysidimyia chrysidimima* Hull, Ann. Carnegie Museum 27:126, pl. 8, fig. 7.

1949. *Microdon* (*Chrysidimyia*) *chrysidimima* Hull, Trans. Zool. Soc. London 26:309.

Brazil (Carnegie Museum).

Microdon chrysopyga (Giglio-Tos)

1892. *Ubristes chrysopyga* Giglio-Tos, Boll. Mus. Zool. Torino 7:1.
1892. *Ubristes chrysopyga* Giglio-Tos, Mem. R. Accad. Sci. Torino 43.37.
1905. *Microdon chrysopyga* Aldrich, Cat. Dipt. 345.

Mexico.

Microdon clavicornis Curran

1940. *Microdon clavicornis* Curran, Amer. Mus. Novit. 1086:6.

Br. Guiana: High Forest, Mazaruni.

Microdon coarctatus Loew

1864. *Microdon coarctatus* Loew, Berl. Ent. Zeitsch. 5:47.
1886. *Microdon coarctatus* Williston, U. S. Nat. Mus. Bul. 31:6.
1892. *Omegasyrphus coarctatus* Giglio-Tos, Boll. Mus. Zool. Torino 7:3.
1892. *Omegasyrphus coarctatus* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:39.
1905. *Microdon coarctatus* Aldrich, Cat. Dipt. 345.
1914. *Microdon coarctatus* Hine, Ohio Nat. 14:334.
1924. *Microdon coarctatus* Curran, Kans. Univ. Sci. Bul. 15:86, pl. 5.
1949. *Microdon* (*Omegasyrphus*) *coarctatus* Hull, Trans. Zool. Soc. London 26:309.

U.S.A.; Mexico.

Microdon conops Curran

1940. *Microdon conops* Curran, Amer. Mus. Novit. 1086:4.

Brazil: Maracaju, Matto Grosso.

Microdon corona Curran

1940. *Microdon corona* Curran, Amer. Mus. Novit. 1086:9.

Brazil: Nova Teutônia.

Microdon cyaneiventris (Macquart)

1846. *Aphritis cyaneiventris* Macquart, Dipt. Exot. 1 Suppl.: 121, fig.
1886. *Microdon cyanoventris* Williston, Trans. Amer. Ent. Soc. 13:310.
1888. *Microdon? cyaneiventris* Williston, Trans. Amer. Ent. Soc. 15:258.

Brazil: Chapada.

Microdon cyaneus Perty

1830. *Microdon cyaneus* Perty, Delec. ani. art. Brazil: 186, fig. 34.
1887. *Microdon cyaneus* Williston, Ent. Amer. 3:28.

Brazil:

Microdon delicatulus (Hull)

1937. *Paramicrodon delicatulus* Hull, Psyche 44:24.
1945. *?Paramicrodon* (*Nannomyrmecomyia*) *delicatulus* Hull, Proc. New Eng. Zool. Club 23:75.
1949. *Spheginobaccha* (*Nannomyrmecomyia*) *delicatulus* Hull, Trans. Zool. Soc. London 26:318.

Cuba: Soledad (Cienfuegos). ,

Microdon diaphanus Sack

1921. *Microdon diaphanus* Sack, Archiv. Naturg. 87:146, fig.

Paraguay.

Microdon elongata Hull

1943. *Microdon elongata* Hull, Ann. Mag. Nat. Hist. (11) 10:706.

Brazil: Santarém " Villa Nova ".

Microdon emeralda Hull

1943. *Microdon emeralda* Hull, Ann. Mag. Nat. Hist. (11) 10:719.

Br. Guiana.

Microdon eutristis Curran

1924. *Microdon eutristis* Curran, Kans. Univ. Sci. Bul. 15:74.

Mexico: Yucatan.

Microdon falcatus Williston

1886. *Microdon falcatus* Williston, U. S. Nat. Mus. Bul. 31:9.
1891. *Microdon falcatus* Williston, Biol. Centr. Amer., Dipt. 3:3.
1892. *Microdon falcatus* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:36.
1905. *Microdon falcatus* Aldrich, Cat. Dipt. 345.

Mexico: Tierra Colorado, Isthmus of Tehuantepec.

Microdon fenestratus Hull

1943. *Microdon fenestratus* Hull, Ann. Mag. Nat. Hist. (11) 10:712.

Amazons.

Microdon flavipennis Curran

1925. *Microdon flavipennis* Curran, Ann. Mag. Nat. Hist. (9) 16:342.
1934. *Microdon flavipennis* Curran, Bul. Amer. Mus. Nat. Hist. 66:379.

Br. Guiana: Bartica.

Microdon flavofascium Curran

1925. *Microdon flavofascium* Curran, Ann. Mag. Nat. Hist. (9) 16:346.

Brasil: Minas Gerais.

Microdon flavoluna Hull

1943. *Microdon flavoluna* Hull, Ann. Mag. Nat. Hist. (11) 10:718.

Paraguay: San Bernardino.

Microdon flavomarginatum Curran

1925. *Microdon flavomarginatum* Curran, Ann. Mag. Nat. Hist. (9) 16:245.

Peru.

Microdon fucatissimus (Hull)

1937. *Syrphipogon fucatissimus* Hull, Psyche 44:120.
1938. *Syrphipogon fucatissimus* Hull, Ann. Carnegie Mus. 27:126, fig.

South America.

Microdon fulgens Wiedemann

1830. *Microdon fulgens* Wiedemann, Ausser. Zweif. Ins. 2:82.
1832. *Microdon euglossoides* Gray, in Griffith's Anim. Kngdm. 2, tab. 125, fig. 2.
1845. *Aphritis fulgens* Macquart, Dipt. Exot. 1 Suppl.: 122.
1849. *Microdon euglossoides* Walker, List, etc. 3:538.
1886. *Microdon fulgens* Williston, U. S. Nat. Mus. Bul. 31:11.
1896. *Microdon fulgens* Hunter, Can. Ent. 28:89.
1905. *Microdon fulgens* Aldrich, Cat. Dipt. 345.
1917. *Microdon fulgens* Knab, Proc. Biol. Soc. Wash. 30:140.
1924. *Microdon* (*Eumicrodon*) *fulgens* Curran, Kans. Univ. Sci. Bul. 15:50, fig.

Florida; Br. Guiana.

Microdon gracilis Bigot

1883. *Microdon gracilis* Bigot, Ann. Soc. Ent. France: 320.
1891. *Microdon gracilis* Williston, Biol. Centr. Amer., Dipt. 3:3.
1905. *Microdon gracilis* Aldrich, Cat. Dipt. 346.
1949. *Microdon gracilis* Hull, Trans. Zool. Soc. London 26:318.

Mexico: Orizaba.

Microdon granulata Curran

1940. *Microdon granulata* Curran, Amer. Mus. Novit. 1086:9.

Br. Guiana: Mazuruni, Amatuk.

Microdon guianica Curran

1925. *Microdon guianica* Curran, Ann. Mag. Nat. Hist. (9) 16:340.
1934. *Microdon guianica* Curran, Bul. Amer. Mus. Nat. Hist. 66:377.

Br. Guiana: Bartica.

Microdon hermetia Curran

1936. *Microdon hermetia* Curran, Amer. Mus. Novit. 882:3.

Canal Zone: Barro Colorado Island.

Microdon hermetoides Curran

1940. *Microdon hermetoides* Curran, Amer. Mus. Novit. 1086:8.

Br. Guiana: Moraballi Creek, Essequibo R.

Microdon histrio Wiedemann

1830. *Microdon histrio* Wiedemann, Ausser. Zweif. Ins. 2:83.
1891. *Microdon histrio* Arribálzaga, Ann. Soc. Cient. Argentina 32:31.
1941. *Microdon histrio* Curran, Bul. Amer. Mus. Nat. Hist. 78:252.

Uruguay.

Microdon hondurania Hull

1940. *Microdon hondurania* Hull, Ent. News 51:247

S. Honduras: Ceiba.

Microdon inaequalis Loew

1866. *Microdon inaequalis* Loew, Berl. Ent. Zeitsch. 7:70.
1905. *Microdon inaequalis* Aldrich, Cat. Dipt. 346.

Cuba.

Microdon inarmatus Curran

1925. *Microdon inarmatus* Curran, Amer. Mus. Novit. 176:5.
1934. *Microdon inarmatus* Curran, Bul. Amer. Mus. Nat. Hist. 66:377.

Br. Guiana: Bartica, Kartabo, Tukeit.

Microdon instabilis Wiedemann

1830. *Microdon instabilis* Wiedemann, Ausser. Zweif. Ins. 2:83.
1848. *Aphritis instabilis* Rondani, Truqui Studi Ent. 1:17.
1891. *Microdon instabilis* Arribálzaga, An. Soc. Cient. Argentina 32:34.

Brazil; Argentina.

Microdon laetus Loew

1864. *Microdon laetus* Loew, Berl. Ent. Zeitsch. 5:46.
1905. *Microdon laetus* Aldrich, Cat. Dipt. 346.
1912. *Microdon laetus* Walton, Ent. News 23:436.

Cuba.

Microdon lanei Curran

1936. *Microdon lanei* Curran, Amer. Mus. Novit. 882:5.

Brazil: Juquiá, São Paulo.

Microdon langi Curran

1925. *Microdon langi* Curran, Ann. Mag. Nat. Hist. (9) 16:341.
1934. *Microdon langi* Curran, Bul. Amer. Mus. Nat. Hist. 66:379.

Br. Guiana.

Microdon lazuli (Hull)

1944. *Chrysidimyia lazuli* Hull, Ann. Mag. Nat. Hist. (11) 11:241.

Amazons: Villa Nova.

Microdon mackiei Curran

1940. *Microdon mackiei* Curran, Amer. Mus. Novit. 1086:5.

Br. Guiana: Rockstone.

Microdon macquartii Arribálzaga

1847. *Aphritis angustatus* Macquart, Dipt. Exot. 3 Suppl.: 198.
1891. *Microdon macquartii* Arribálzaga, An. Soc. Cient. Argentina 32:30.

Uruguay.

Microdon maculatus Shannon

1927. *Microdon maculatus* Shannon, Proc. U. S. Nat. Mus. 70:21.

Bolivia: Prov. Sara, Santa Cruz de la Sierra.

Microdon manni Shannon

1923. *Microdon manni* Shannon, Ins. Insc. Mens. 11:80.

Bolivia.

Microdon marceli Curran

1936. *Microdon marceli* Curran, Amer. Mus. Novit. 882:7.

Brazil: Chapada.

Microdon mellogutta Hull

1943. *Microdon mellogutta* Hull, Ann. Mag. Nat. Hist. (11) 10:704.
Amazons.

Microdon micromidas Shannon

1925. *Microdon micromidas* Shannon, Proc. Ent. Soc. Wash. 27:112.
Panama.

Microdon mirabilis Williston

1888. *Microdon mirabilis* Williston, Trans. Amer. Ent. Soc. 15:257.
1921. *Microdon mirabilis* Sack, Archiv. Naturg. 87:147.
Brazil: Chapada.

Microdon mitis Curran

1940. *Microdon mitis* Curran, Amer. Mus. Novit. 1086:7.
Brazil: Rio de Janeiro.

Microdon mixtus Curran

1940. *Microdon mixtus* Curran, Amer. Mus. Novit. 1086:6.
Br. Guiana: Kamaria Landing, Cuyuni River.

Microdon mus Curran

1936. *Microdon mus* Curran, Amer. Mus. Novit. 882:5.
Brazil: São Paulo.

Microdon nero Curran

1936. *Microdon nero* Curran, Amer. Mus. Novit. 882:6.
Brazil: São Paulo.

Microdon nestor Curran

1940. *Microdon nestor* Curran, Amer. Mus. Novit. 1086:11.
Brazil: Nova Teutônia.

Microdon niger Williston

1891. *Microdon niger* Williston, Biol. Centr. Amer., Dipt. 3:4, tab. 1, fig. 3.
1905. *Microdon niger* Aldrich, Cat. Dipt. 346.
Mexico: Panima.

Microdon nigrispinosus Shannon

1927. *Microdon nigrispinosus* Shannon, Proc. U. S. Nat. Mus. 70:21.
Brazil: Ega, Tapajos.

Microdon normalis Curran

1925. *Microdon normalis* Curran, Ann. Mag. Nat. Hist. (9) 16:343.
1943. *Microdon normalis* Curran, Bul. Amer. Mus. Nat. Hist. 66:378.
Br. Guiana: Ureed-en Hoop, Demerara River.

Microdon oligonax Hull

1944. *Microdon oligonax* Hull, Rev. de Ent. 15:35.
Brazil: Pto. America, R. Putumayo.

Microdon panamensis Curran

1930. *Microdon panamensis* Curran, Amer. Mus. Novit. 416:6.
Panama: France Field.

Microdon plaumanni Curran

1940. *Microdon plaumanni* Curran, Amer. Mus. Novit. 1086:3.
Brazil: Nova Teutônia.

Microdon procedens Curran

1941. *Microdon procedens* Curran, Bul. Amer. Mus. Nat. Hist. 78:251.
Brazil: Nova Teutônia.

Microdon procteri Curran

1941. *Microdon procteri* Curran, Bul. Amer. Mus. Nat. Hist. 78:251.
Brazil: Nova Teutônia.

Microdon pulcher Williston

1886. *Microdon pulcher* Williston, U. S. Nat. Mus. Bul. 31:5.
1905. *Microdon pulcher* Aldrich, Cat. Dipt. 346.
Cuba: San Domingo.

Microdon remotus Knab

1917. *Microdon remotus* Knab, Proc. Biol. Soc. Wash. 30:142.
Cuba.

Microdon remus Curran

1941. *Microdon remus* Curran, Bul. Amer. Mus. Nat. Hist. 78:250.
Brazil: Nova Teutonia.

Microdon rheochryssus Hull

1944. *Microdon rheochryssus* Hull, Rev. de Ent. 15:38.
Argentina: S. Juanacinto, Jujuy.

Microdon rubriventris Arribálzaga

1891. *Microdon rubriventris* Arribálzaga, An. Soc. Cient. Argentina 32:32.
Argentina.

Microdon rufiventris (Rondani)

1848. *Aphritis rufiventris* Rondani, Truqui. Studi Entom. 1:73.
1886. *Microdon rufiventris* Williston, Trans. Amer. Ent. Soc. 13:310.
1914. *Microdon rufiventris* Hine, Ohio Nat. 14:334.
Brazil; Br. Guiana.

Microdon scolopus Shannon

1927. *Microdon scolopus* Shannon, Proc. U. S. Nat. Mus. 70:20.
Amazons.

Microdon shannoni Curran

1940. *Microdon shannoni* Curran, Amer. Mus. Novit. 1086:8.
Brazil: Maracaju, Mato Grosso.

Microdons simillima Hull

1950. *Microdon simillima* Hull, Ann. Mag. Nat. Hist. (12) 3:611.
Br. Guiana: Essequibo River.

Microdon solitaria Curran

1930. *Microdon solitaria* Curran, Amer. Mus. Novit. 416:8.
Panama: Barro Colorado Island.

Microdon splendens Wiedemann

1830. *Microdon splendens* Wiedemann, Ausser. Zweif. Ins. 2:84.
1886. *Microdon splendens* Williston, Trans. Amer. Ent. Soc. Phil. 13:310.
1888. *Microdon splendens* Williston, Trans. Amer. Ent. Soc. 15:257.
Brazil: Chapada.

Microdon straminea Hull

1943. *Microdon straminea* Hull, Ann. Mag. Nat. Hist. (11) 10:703.

Brazil: Para.

Microdon superbus Wiedemann

1830. *Microdon superbus* Wiedemann, Ausser. Zweif. Ins. 2:82.
1941. *Microdon superbus* Curran, Bul. Amer. Mus. Nat. Hist. 78:252.

Brazil.

Microdon tenuicaudum Curran

1925. *Microdon tenuicaudum* Curran, Ann. Mag. Nat. Hist. (9) 16:339.
1934. *Microdon tenuicauda* Curran, Bul. Amer. Nat. Hist. 66:526, figs.

Peru.

Microdon tigrina Curran

1940. *Microdon tigrina* Curran, Amer. Mus. Novit. 1086:11.

Brazil: Rio de Janeiro.

Microdon triangularis Curran

1940. *Microdon triangularis* Curran, Amer. Mus. Novit. 1086:6.

Brazil: Dourados, Mato Grosso.

Microdon trilinea Hull

1943. *Microdon trilinea* Hull, Ann. Mag. Nat. Hist. (11) 10:710.

Amazons.

Microdon trivittatum Curran

1925. *Microdon trivittatum* Curran, Ann. Mag. Hist. (9) 16:344 .
1934. *Microdon trivittatum* Curran, Bul. Amer. Mus. Nat. Hist. 66:376

Br. Guiana: Kartabo.

Microdon violaceus (Macquart)

1842. *Aphritis violaceus* Macquart, Dipt. Exot. 2, 2:13.
1852. *Aphritis violaceus* Blanchard, Gay's Hist. fis. y polit. Chile, Zool. 7:404, fig.
1865. *Aphritis violaceus* Philippi, Verh. Zool.-Bot. Ges. Wien 15:733.
1891. *Microdon violaceus* Arribálzaga, An. Soc. Cient. Argentina 32:33.
1933. *Microdon violaceus* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:124.

Argentina; Chile.

Microdon violens Tows

1895. *Microdon violens* Tows, Trans. Amer. Ent. Soc. 22:34.
1905. *Microdon violens* Aldrich, Cat. Dipt. 346.
1927. *Microdon violens* Curran, App., Rec. & Descr. of Diptera, Jamaica: 21.

Jamaica: Cinchona.

Microdon virgo Curran

1940. *Microdon virgo* Curran, Amer. Mus. Novit. 1086:7.

Brazil: Nova Teutônia.

Microdon wheeleri Mann

1928. *Microdon wheeleri* Mann, Psyche 35:168.

Panama: Canal Zone.

Microdon willistoni Mik

1888. *Microdon inermis* Williston, Trans. Amer. Ent. Soc. 15:258.
1899. *Microdon willistoni* Mik, Wien. Ent. Zeitsch. 18:143.

Argentina.

Genus *UBRISTES* Walker

1852. *Ubristes* Walker, Insect Saunders, Dipt. 1:217 (type *flavitibia* Walker).
1927. *Microdon* (*Ubristes*) Shannon, Proc. U. S. Nat. Mus. 70:18.
1949. *Microdon* (*Ubristes*) Hull, Trans. Zool. Soc. London 26:310.

Region neotropical.

Ubristes flavitibia Walker

1852. *Ubristes flavitibia* Walker, Ins. Saunders, Dipt. 1:217, fig.
1914. *Microdon flavitibia* Hine, Ohio Nat. 14:334.
1949. *Microdon* (*Ubristes*) *flavitibia* Hull, Trans. Zool. Soc. London 26:310.

Brazil; Br. Guiana (Brit. Museum).

Ubristes fraudator Shannon

1927. *Microdon* (*Ubristes*) *fraudator* Shannon, Proc. U. S. Nat. Mus. 70:20.
1945. *Microdon* (*Stipomorpha*) *fraudator* Hull, Proc. N. Eng. Zool. Club 23:74.
1949. *Paramixogasteroides* (*Stipomorpha*) *fraudator* Hull, Trans. Zool. Soc. London 26:311.

Amazons (Brit. Museum).

Ubristes goettei Shannon

1927. *Microdon* (*Ubristes*) *goettei* Shannon, Proc. U. S. Nat. Mus. 70:19.

Amazons (Brit. Museum).

Ubristes lacteipennis Shannon

1927. *Microdon* (*Ubristes*) *lacteipennis* Shannon, Proc. U. S. Nat. Mus. 70:18.

Amazons (Brit. Museum).

Ubristes scutellaris Shannon

1927. *Microdon* (*Ubristes*) *scutellaris* Shannon, Proc. U. S. Nat. Mus. 70:20.

Amazons (Brit. Museum).

Ubristes trigoniformis Shannon

1927. *Microdon* (*Ubristes*) *trigoniformis* Shannon, Proc. U. S. Nat. Mus. 70:19.
1941. *Microdon trigoniformis* Curran, Bul. Amer. Mus. Nat. Hist. 78:248.

Brazil: Villa Nova (Brit. Museum).

Ubristes ulopodus Hull

1944. *Ubristes ulopodus* Hull, Rev. de Ent. 15:34.

Peru: Lachoruria, Putumayo Dist.

Genus *PSEUDOMICRODON* Hull

1937. *Pseudomicrodon* Hull, Psyche 44:24 (type *beebei* Curran).
1945. *Tanaopicera* Hull, Proc. N. Eng. Zool. Club 23:76.
1949. *Pseudomicrodon* Hull, Trans. Zool. Soc. London 26:311.

Regions: neotropical, ethiopian, australian.

Pseudomicrodon beebei (Curran)

1936. *Microdon beebei* Curran, Amer. Mus. Novit. 882:4.
1937. *Pseudomicrodon beebei* Hull, Psyche 44:24.

Br. Guiana: Kartabo.

Genus *RHOPALOSYRPHUS* Giglio-Tos

1891. *Rhopalosyrphus* Giglio-Tos, Boll. Mus. Zool. Torino 6:3 (type *güntherii* Arribálzaga).
1891. *Holmbergia* Arribálzaga, An. Soc. Cient. Argentina 32:196.
1892. *Rhopalosyrphus* Williston, Biol. Centr. Amer., Dipt. 3:78.

1905. *Rhopalosyrphus* Aldrich, Cat. Dipt. 347.
1949. *Rhopalosyrphus* Hull, Trans. Zool. Soc. London 26:312, figs.

Region neotropical.

Rhopalosyrphus auricinctus Sack

1921. *Rhopalosyrphus auricinctus* Sack, Archiv. Naturg. 87:148, fig.

Paraguay.

Rhopalosyrphus güntherii (Arribálzaga)

1891. *Holmbergia güntherii* Arribálzaga, An. Soc. Cient. Argentina 32:198, fig.
1892. *Rhopalosyrphus güntherii* Arribálzaga, An. Soc. Cient. Argentina 34:251.
1892. *Rhopalosyrphus güntherii* Giglio-Tos, Boll. Mus. Zool. Torino 7:2.
1893. *Rhopalosyrphus güntherii* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:131, fig.
1905. *Rhopalosyrphus güntherii* Aldrich, Cat. Dipt. 347.

Argentina; Mexico.

Genus *CERIOIMICRODON* Hull

1937. *Cerioimicrodon* Hull, Psyche 44:25 (type *petiolatus* Hull).
1949. *Cerioimicrodon* Hull, Trans. Zool. Soc. London 26:314.

Region neotropical.

Cerioimicrodon petiolatus Hull

1937. *Cerioimicrodon petiolatus* Hull, Psyche 44:25.

Brazil: West Border Mato Grosso.

Genus *MIXOGASTER* Macquart

1842. *Mixogaster* Macquart, Dipt. Exot. 2, 2:14 (type *conopsoides* Macquart).
1897. *Mixogaster* Kahl, Kans. Univ. Quart. 6:140.
1905. *Mixogaster* Aldrich, Cat. Dipt. 347.
1914. *Mixogaster* Hine, Ohio Nat. 14:334.
1924. *Mixogaster* Curran, Kans. Univ. Sci. Bul. 15:43.
1940. *Mixogaster* Hull, Trans. Zool. Soc. London 26:314.

Regions; nearctic and neotropical.

Mixogaster anthermus (Walker)

1849. *Ascia anthermus* Walker, List, etc. 3:547.
1886. *?Baccha anthermus* Williston, Trans. Amer. Ent. Soc. 13:323.
1943. *Mixogaster anthermus* Hull, Proc. Ent. Soc. Wash. 45:10.

Brasil (Brit. Museum).

Mixogaster bellula Williston

1891. *Mixogaster bellula* Williston, Biol. Centr. Amer., Dipt. 3:1, tab. 1, fig. 1.
1905. *Mixogaster bellula* Aldrich, Cat. Dipt. 347.

Mexico: La Venta, Guerrero.

Mixogaster claripennis Hine

1914. *Mixogaster claripennis* Hine, Ohio Nat. 14:334.

Guatemala.

Mixogaster conopsoides Macquart

1842. *Mixogaster conopsoides* Macquart, Dipt. Exot. 2, 2:14, fig.
1888. *Mixogaster conopsoides* Williston, Trans. Amer. Ent. Soc. 15:257.
1897. *Mixogaster conopsoides* Kahl, Kans. Univ. Quart. 6:140.

Brazil: Corumba, Rio de Janeiro.

Mixogaster cubensis Curran

1932. *Mixogaster cubensis* Curran, Amer. Mus. Novit. 519:1.

Cuba: Sierra Maestra, Pico Turquino, Santa Barbara.

Mixogaster delongi Johnson

1925. *Mixogaster delongi* Johnson, Psyche 32:301.

Keys: Florida.

Mixogaster dimitiata Giglio-Tos

1892. *Mixogaster dimitiata* Giglio-Tos, Boll. Mus. Zool. Torino 7:1.
1892. *Mixogaster dimitiata* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:33, fig.
1897. *Mixogaster dimitiata* Kahl, Kans. Univ. Quart. 6:141.
1905. *Mixogaster dimitiata* Aldrich, Cat. Dipt. 347.
1925. *Mixogaster dimitiata* Shannon, Proc. Ent. Soc. Wash. 27:112.

Mexico.

Mixogaster mexicana Macquart

1845. *Mixogaster mexicanus* Macquart, Dipt. Exot. 1 Suppl.: 123, tab., 10, fig. 15.
1891. *Mixogaster mexicana* Williston, Biol. Centr. Amer., Dipt. 3:1.
1897. *Mixogaster mexicana* Kahl, Kans. Univ. Quart. 6:140.
1905. *Mixogaster mexicana* Aldrich, Cat. Dipt. 347.

Mexico.

Mixogaster orpheus Hull

1944. *Mixogaster orpheus* Hull, Psyche 51:36.

Br. Guiana: Bartica.

Mixogaster pithecofascia Hull

1943. *Mixogaster pithecofascia* Hull, Rev. de Ent. 14:512.

Colombia: Restrepo (Hull Coll.).

Mixogaster rarior Shannon

1925. *Mixogaster rarior* and var. *rarissimus* Shannon, Proc. Ent. Soc. Wash. 27:111.

Panama; Guatemala.

Mixogaster strictor Hull

1941. *Mixogaster strictor* Hull, Amer. Mus. Novit. 1151:1.

Brazil: Piedra.

Genus *CERATOPHYA* Wiedemann

1824. *Ceratophya* Wiedemann, Anal. Ent.: 14 (f.) (type *notata* Wiedemann).
1941. *Ceratophya* Curran, Bul. Amer. Mus. Nat. Hist. 78:253....
1949. *Ceratophya* and *Paraceratophya* Hull, Trans. Zool. Soc. London 26:314.

Region neotropical.

Ceratophya analis (Curran)

1940. *Microdon analis* Curran, Amer. Mus. Novit. 1086:3.
1941. *Ceratophya analis* Curran, Bul. Amer. Mus. Nat. Hist. 78:254.

Brazil.

Ceratophya bicolor Walker

1857. *Ceratophya bicolor* Walker, Trans. Ent. Soc. London 4:151.
1941. *Ceratophya bicolor* Curran, Bul. Amer. Mus. Nat. Hist. 78:254.

Brazil.

Ceratophya carpenteri Hull

1945. *Ceratophya carpenteri* Hull, Proc. N. Eng. Zool. Club 23:76.
1949. *Ceratophya* (*Protoceratophya*) *carpenteri* Hull, Trans. Zool. Soc. London 26:314.

Panama (Museum Comp. Zool.).

Ceratophya flukei (Curran)

1936. *Microdon flukei* Curran, Amer. Mus. Novit. 882:2.
1941. *Ceratophya flukei* Curran, Bul. Amer. Mus. Nat. Hist. 78:254.
1949. *?Spheginobaccha* (*Nannomyreocomyia*) *flukei* Hull, Trans. Zool. Soc. London 26: 318.

Brazil.

Ceratophya goettei (Shannon)

1927. *Microdon goettei* Shannon, Proc. U. S. Nat. Mus. 70:19.
1941. *Ceratophya goettei* Curran, Bul. Amer. Mus. Nat. Hist. 78:253.

Brazil.

Ceratophya longicornis Wiedemann

1824. *Ceratophya longicornis* Wiedemann, Anal. Ent.: 14.
1825. *Ceratophya longicornis* Lepeletier and Serville, Encycl. Meth. 10:517.
1830. *Ceratophya longicornis* Wiedemann, Ausser. Zweif. Ins. 2:80.
1934. *Ceratophya longicornis* Macquart, Hist. Nat. Ins. Dipt. 1:488.
1886. *Microdon longicornis* Williston, Trans. Amer. Ent. Soc. 13:310.
1941. *Ceratophya longicornis* Curran, Bul. Amer. Mus. Nat. Hist. 78:253.

Brazil.

Ceratophya luridescens Walker

1857. *Ceratophya luridescens* Walker, Trans. Ent. Soc. London 4:151.
1941. *Ceratophya luridescens* Curran, Bul. Amer. Mus. Nat. Hist. 78:252 and 253.

Amazons.

Ceratophya macroptera Curran

1941. *Ceratophya macroptera* Curran, Bul. Amer. Mus. Nat. Hist. 78:254.
1949. *Ceratophya macroptera* Hull, Trans. Zool. Soc. London 26:314.

Brazil: Nova Teutônia.

Ceratophya notata Wiedemann

1824. *Ceratophya notata* Wiedemann, Anal. Ent.: 14.
1825. *Ceratophya notata* Lepeletier and Serville, Encycl. Meth. 10:517.
1830. *Ceratophya notata* Wiedemann, Ausser. Zweif. Ins. 2:80, fig.
1834. *Ceratophya notata* Macquart, Hist. Nat. Ins. Dipt. 1:488, fig.
1886. *Microdon notata* Williston, Trans. Amer. Ent. Soc. 13:310.
1941. *Ceratophya notata* Curran, Bul. Amer. Mus. Nat. Hist. 78:253.

Brazil.

Ceratophya plaumanni (Curran)

1940. *Microdon plaumanni* Curran, Amer. Mus. Novit. 1086:3.
1941. *Ceratophya plaumanni* Curran, Bul. Amer. Mus. Nat. Hist. 78:254.

S. Brazil.

Genus *RHOGA* Walker

1857. *Rhoga* Walker, Trans. Ent. Soc. London 4:157 (type *lutescens* Walker).

1937. *Papiliomyia* Hull, Psyche 44:27.
1941. *Rhoga* Curran, Bul. Amer. Mus. Nat. Hist. 78:252.
1949. *Rhoga* Hull, Trans. Zool. Soc. London 26:316.

Region neotropical.

Rhoga lutescens Walker

1857. *Rhoga lutescens* Walker, Trans. Ent. Soc. London 4:157.
1941. *Rhoga lutescens* Curran, Bul. Amer. Mus. Nat. Hist. 78:253.

Brazil: Pará.

Rhoga mellea (Curran)

1940. *Microdon mellea* Curran, Amer. Mus. Novit. 1086:5.
1941. *Rhoga mellea* Curran, Bul. Amer. Mus. Nat. Hist. 78:253.

Br. Guiana.

Rhoga sepulchrasilva (Hull)

1937. *Papiliomyia sepulchrasilva* Hull, Psyche 44:28.
1949. *Rhoga sepulchrasilva* Hull, Trans. Zool. Soc. London 26:316.

Brazil: Rio Grande do Sul.

Rhoga xanthoprosopa Baretto & Lane

1947. *Rhoga xanthoprosopa* Barretto & Lane, Rev. de Ent. Rio de Janeiro 18:145.

Brazil: Minas Gerais (Univ. São Paulo).

Genus *ARISTOSYRPHUS* Curran

1941. *Aristosyrphus* Curran, Bul. Amer. Mus. Nat. Hist. 78:252 (type *primus* Curran).
1949. *Aristosyrphus* Hull, Trans. Zool. Soc. London 26:316.

Region neotropical.

Aristosyrphus primus Curran

1941. *Aristosyrphus primus* Curran, Bul. Amer. Mus. Nat. Hist. 78:252.
1947. *Aristosyrphus primus* Baretto & Lane, Rev. de Ent. Rio de Janeiro 18:139.

Brazil: Nova Teutônia, São Paulo.

Genus *EURYPTEROSYRPHUS* Barretto & Lane

1947. *Eurypterosyrphus* Barretto & Lane, Rev. de Ent. Rio de Janeiro 18:141 (type *melanopterus* Barretto & Lane).
1949. *Rhoga* (*Eurypterosyrphus*) Hull, Trans. Zool. London 26:316.

Region neotropical.

Eurypterosyrphus melanopterus Barretto & Lane

1947. *Eurypterosyrphus melanopterus* Barretto & Lane, Rev. de Ent. Rio de Janeiro 18:142, fig.
149. *Rhoga* (*Eurypterosyrphus*) *melanopterus* Hull, Trans. Zool. Soc. London 26:316.

Brazil: São Paulo (Univ. São Paulo).

Genus *MASARYGUS* Brèthes

1909. *Masarygus* Brèthes, An. Mus. Nac. Buenos Aires (3) 9:442 (type *planifrons* Brèthes).
1949. *Masarygus* Hull, Trans. Zool. Soc. London 26:316.

Region neotropical.

Masarygus megacephalus (Shannon)

1925. *Microdon megacephalus* Shannon, Jour. Wash. Acad. Sci. 15:213.
1949. *Masarygus megacephalus* Hull, Trans. Zool. Soc. London 26:313, figs.

Brazil.

Masarygus planifrons Brèthes

1909. *Masarygus planifrons* Brèthes, An. Mus. Nac. Buenos Aires (3) 9:443.

Argentina: Gral. Urquiza en Buenos Aires.

Genus *SCHIZOCERATOMYIA* Carrera, Lopes & Lane

1947. *Schizoceratomyia* Carrera, Lopes & Lane, Brasil Medico 41:245 (type *barretoi* Carrera, Lopes & Lane).
1947. *Schizoceratomyia* Carrera, Lopes & Lane, Rev. Brasil Biol. 7:472.
1949. *Masarygus?* Hull, Trans. Zool. Soc. London 26:316.

Region neotropical.

Schizoceratomyia barretoi Carrera, Lopes & Lane

1947. *Schizoceratomyia barretoi* Carrera, Lopes & Lane, Brasil Medico 41:245.
1947. *Schizoceratomyia barretoi* Carrera, Lopes & Lane, Rev. Brasil Biol. 7:473, figs.

Brazil: Estado de Goiás (Dep. Zool. São Paulo).

Schizoceratomyia flavipes Carrera, Lopes & Lane

1947. *Schizoceratomyia flavipes* Carrera, Lopes & Lane, Brasil Medico 41:246.
1947. *Schizoceratomyia flavipes* Carrera, Lopes & Lane, Rev. Brasil Biol. 7:476, figs.

Brazil: Estado de São Paulo (Dep. Zool. São Paulo).

Genus *JOHNSONIODON* Curran

1947. *Johnsoniodon* Curran, Amer. Mus. Novit. 1347:1 (type *malleri* Curran).
1949. *Masarygus?* Hull, Trans. Zool. Soc. London 26:316.

Region neotropical.

Johnsoniodon malleri Curran

1947. *Johnsoniodon malleri* Curran, Amer. Mus. Novit. 1347:1.

Brazil: Corupá, Santa Catarina.

Genus *HYPSELOSYRPHUS* Hull

1937. *Hypselosyrphus* Hull, Psyche 44:21 (type *trigonus* Hull).
1949. *Hypselosyrphus* Hull, Trans. Zool. Soc. London 26:317.

Region neotropical.

Hypselosyrphus trigonus Hull

1937. *Hypselosyrphus trigonus* Hull, Psyche 44:21, pl. 2, fig. 9.

Panama: Barro Colorado.

Genus *NOTHOMICRODON* Wheeler

1924. *Nothomicrodon* Wheeler, Proc. Nat. Acad. Sci. 10:243 (type *aztecarum* Wheeler).
1949. *Nothomicrodon* Hull, Trans. Zool. Soc. London 26:318.

Region neotropical.

Nothomicrodon aztecarum Wheeler

1924. *Nothomicrodon aztecarum* Wheeler, Proc. Nat. Acad. Sci. 10:243.

Panama.

Genus *NAUSIGASTER* Williston

1884. *Nausigaster* Williston, Trans. Amer. Ent. Soc. 11:33 (type *punctulata* Williston).
1891. *Nausigaster* Arribálzaga, An. Soc. Cient. Argentina 32:153.
1897. *Nausigaster* Townsend, Ann. Mag. Nat. Hist. (6) 20:23.
1905. *Nausigaster* Aldrich, Cat. Dipt. 350.
1941. *Nausigaster* Curran, Bul. Amer. Nat. Hist. 78:255.
1947. *Nausigaster* Carrera, Lopes & Lane, Rev. Brasil Biol. 7:477.
1949. *Nausigaster* Hull, Trans. Zool. Soc. London 26:322.

Regions: nearctic and neotropical.

Nausigaster bonariensis Arribálzaga

1891. *Nausigaster bonariensis* Arribálzaga, An. Soc. Cient. Argentina 32:155.

Argentina.

Nausigaster chrysidiformis Shannon

1922. *Nausigaster chrysidiformis* Shannon, Bul. Brook. Ent. Soc. 17:39.

Peru.

Nausigaster flukei Curran

1941. *Nausigaster flukei* Curran Bul. Amer. Mus. Nat. Hist. 78:256.
1947. *Nausigaster flukei* Carrera, Lopes & Lane, Rev. Brasil Biol. 7:478, figs. 20-26.

Paraguay: Villarica; Brazil: São Paulo, Porto Cabral, Rio Paraná.

Nausigaster meridionalis Townsend

1897. *Nausigaster meridionalis* Townsend, Ann. Mag. Nat. Hist., (6) 19:20.
1905. *Nausigaster meridionalis* Aldrich, Cat. Dipt. 350.

Mexico: Vera Cruz; Brazil?

Nausigaster nausica Hull

1937. *Nausigaster nausica* Hull, Jour. Wash. Acad. Sci. 27:172, fig. 3.

Uruguay: Montevideo.

Nausigaster peruviensis Shannon

1922. *Nausigaster peruviensis* Shannon, Bul. Brook. Ent. Soc. 17:40.

Peru.

Nausigaster punctulata Williston

1883. *Nausigaster punctulata* Williston, Trans. Amer. Ent. Soc. 11:34, tab. 2, fig. 15.
1886. *Nausigaster punctulata* Williston, Bul. U. S. Nat. Mus. 31:31, tab. 1, fig. 10.
1888. *Nausigaster punctulata* Williston, Trans. Amer. Ent. Soc. 15:259.
1891. *Nausigaster punctulata* Williston, Biol. Centr. Amer., Dipt. 3:6.
1897. *Nausigaster punctulata* Townsend, Psyche 8:148.
1905. *Nausigaster punctulata* Aldrich, Cat. Dipt. 350.

California; Mexico; Brazil; New Mexico.

Nausigaster shannoni Carrera, Lopes & Lane

1947. *Nausigaster shannoni* Carrera, Lopes & Lane, Rev. Brasil. Biol. 7:481, figs. 28-49.

Brazil: Rio de Janeiro, São Paulo, Porto Cabral, Mato Grosso, S. Pedro.

Nausigaster tuberculata Carrera, Lopes & Lane

1947. *Nausigaster tuberculata* Carrera, Lopes & Lane, Rev. Brasil Biol. 7:480, fig. 27.

Brazil: Estado do Paraná, Iguassu.

Nausigaster vanzolinii D'Andretta & Carrera

1952. *Nausigaster vanzolinii* D'Andretta & Carrera, Pap. Avul. 10:298, figs.

Brazil: Acre (Dep. Zool. São Paulo).

Genus *CHEILOSIA* Meigen

1822. *Cheilosia* Meigen, Syst. Beschr. Ins. 3:296 (type *flavipes* Panzer).
1882. *Endoiasimyia* Bigot, Ann. Soc. Ent. France: 136.
1883. *Cartosyrphus* Bigot, Ann. Soc. Ent. France: 230.
1884. *Chilosia* Williston, Bul. U. S. Nat. Mus. 31:35.
1891. *Chilosia* Williston, Biol. Centr. Amer., Dipt. 3:8.
1894. *Chilosia* Becker, Rev. Gatt. Chilosia Halle, 13 pl.
1905. *Chilosia* Aldrich, Cat. Dipt. 352.
1916. *Taeniochilosia* Oldenberg, Wien. Ent. Zeitg. 35:101.
1922. *Chilomyia* Shannon, Ins. Insci. Mens. 10:126.
1922. *Hiatomyia* Shannon, Ins. Insci. Mens. 10:126.
1930. *Sonanomyia* Shiraki, Mem. Faculty Sci. Agr. Taihoku Imp. Univ. 1:320.
1933. *Chilosia* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:125.
1936. *Chaetochilosia* Enderlein, Die Tierwelt Mitteleuropas, Dipt. 6:125.
1936. *Dasychilosia* Enderlein, Die Tierwelt Mitteleuropas Dipt. 6:125.
1944. *Chilomyia* Goffe, Ent. Mont. Mag. 80:238.
1949. *Cheilosia* Hull, Trans. Soc. London 26:326.
1950. *Cheilosia* Hull and Fluke, Bul. Amer. Mus. Nat. Hist. 94:303.

Regions: palaearctic, nearctic, neotropical, oriental, australian.

Cheilosia auritecta Giglio-Tos.

1892. *Chilosia auritecta* Giglio-Tos, Boll. Mus. Zool. Torino 7:4.
1892. *Chilosia auritecta* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:58, fig.
1905. *Chilosia auritecta* Aldrich, Cat. Dipt. 352.
1950. *Cheilosia auritecta* Hull and Fluke, Bul. Amer. Mus. Nat. Hist. 94:367.

Mexico.

Cheilosia bicolor Shannon & Aubertin

1933. *Chilosia bicolor* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:141, fig.
1950. *Cheilosia* (*Chromocheilosia*) *bicolor* Hull & Fluke, Bul. Amer. Mus. Nat. Hist. 94:306.

Chile.

Cheilosia chrysochlamys Williston

1891. *Chilosia chrysochlamys* Williston, Biol. Centr. Amer., Dipt. 3:8, tab. 1, fig. 4.
1905. *Chilosia chrysochlamys* Aldrich, Cat. Dipt. 352.
1950. *Cheilosia chrysochlamys* Hull & Fluke, Bul. Amer. Mus. Nat. Hist. 94:346, fig. 35.

Mexico: Escondidas, Omilteme, Sierra de las Aguas.

?Cheilosia cincta (Bigot)

1883. *Lepidomyia cincta* Bigot, Ann. Ent. Soc. France: 345.
1886. *Lepidomyia cincta* Williston, U. S. Nat. Mus. Bul. 31:299.
1905. *Chilosia? cincta* Aldrich, Cat. Dipt. 352.

Mexico.

Cheilosia frontosa (Bigot)

1884. *Cartosyrphus frontosus* Bigot, Ann. Soc. Ent. France: 553.
1886. *Chilosia frontosa* Williston, U. S. Nat. Mus. Bul. 31:46.
1905. *Chilosia frontosa* Aldrich, Cat. Dipt. 352.

Mexico.

Cheilosia incerta Shannon & Aubertin

1933. *Chilosia incerta* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:142.

Chile.

Cheilosia nitescens Shannon & Aubertin

1933. *Chilosia nitescens* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:143.

Argentina: Patagonia; Chile: San Carlos.

Cheilosia pubescens Shannon & Aubertin

1933. *Chilosia pubescens* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:142.

Chile.

Cheilosia sororcula Williston

1891. *Chilosia sororcula* Williston, Biol. Centr. Amer., Dipt. 3:9.
1895. *Chilosia sororcula* Snow, Kans. Univ. Quart. 3:228.
1947. *Cheilosia* (*Cartosyrphus*) *sororcula* Fluke & Hull, Trans. Wis. Acad. Sci., Arts & Lett. 37:250, fig. 33.

Southwestern U.S.A.; Mexico (Brit. Museum).

Cheilosia sororia Williston

1891. *Chilosia sororia* Williston, Biol. Centr. Amer., Dipt. 3:8.
1905. *Chilosia sororia* Aldrich, Cat. Dipt. 353.
1922. *Chilosia sororia* Shannon, Ins. Insci. Mens. 10:130.
1950. *Cheilosia sororia* Hull & Fluke, Bul. Amer. Mus. Nat. Hist. 94:348, fig. 24.

Mexico: Ciudad (Brit. Museum).

Genus *PIPIZA* Fallen

1810. *Pipiza* Fallen, Nov. Dipt. Meth. 2:32 (type *noctiluca* Linneaus).
1816. *Pipiza* Fallen, Dipt. Svec., Syrph.: 58.
1840. *Triglyphus* Loew, Oken's Isis: 512.
1841. *Pipiza* Newman, Hist. Ins., Syrph.: 226.
1856. *Heringia* Rondani, Dipt. Ital. Prodr. 1:53.
1857. *Pipizella* Rondani, Dipt. Ital. Prodr. 2:185.
1865. *Penium* Philippi, Verh. Zool-Bot. Ges. Wien 15:741.
1885. *Penium* Kowarz, Wien Ent. Zeitsch. 4:241.
1886. *Pipiza* Williston, U. S. Nat. Mus. Bul. 31:22.
1891. *Pipiza* Williston, Biol. Centr. Amer., Dipt. 3:6.
1905. *Pipiza* Aldrich, Cat. Dipt. 349.
1921. *Pipiza, Heringia, Pipizella* Curran, Proc. Calif. Acad. Sci. 11:345.
1933. *Pipiza* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:143.
1949. *Pipiza* Hull, Trans. Zool. Soc. London 26:330.

Regions: palaearctic, nearctic, neotropical, holarctic, oriental.

Pipiza aurantipes (Bigot)

1857. *Cheilosia aurantipes* Bigot, Ann. Soc. Ent. France: 297.
1865. *Sterphus flavipes* Philippi, Verh. Zool.-Bot. Ges. Wien 15:738.
1865. *Cheilosia aurantipes* Philippi, Verh. Zool.-Bot. Ges. Wien 15:741 and 749.
1883. *?Penium aurantipes* Bigot, Ann. Soc. Ent. France: 222.
1887. *Pipiza aurantipes* Williston, Ent. Amer. 3:28.
1933. *Pipiza aurantipes* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:144.

Chile (Brit. Museum).

Pipiza bellula Williston

1891. *Pipiza bellula* Williston, Biol. Centr. Amer., Dipt. 3:6.
1905. *Pipiza bellula* Aldrich, Cat. Dipt. 349.

Mexico: Xucumanatlan.

Pipiza catharinensis Enderlein

1937. *Pipiza catharinensis* Enderlein, Sitz. Gesellsch. Naturf. Fr. Berlin: 195.

Brazil: Santa Catarina.

Pipiza claripennis Shannon & Aubertin

1933. *Pipiza claripennis* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:144.

Argentina: Patagonia.

Pipiza flavipes (Philippi)

1865. *Penium flavipes* Philippi, Verh. Zool.-Bot. Ges. Wien 15: figs.

Chile.

Pipiza hirsutops Hull

1949. *Pipiza hirsutops* Hull, Ann. Mag. Nat. Hist. (12) 2:744.

Mexico: Oaxaca.

Pipiza triste (Philippi)

1865. *Penium triste* Philippi, Verh. Zool.-Bot. Gesellsch. Wien 15:741.
1884. *Penium dubium* Bigot, Ann. Soc. Ent. France: 557.
1927. *Penium triste* Shannon, Proc. U. S. Nat. Mus. 70:31.
1933. *Pipiza triste* Shannon & Aubertin, Dipt. Patagonia S. Chile. 6:145.

Chile: Santiago.

Pipiza uleana Enderlein

1937. *Pipiza uleana* Enderlein, Sitz. Gesellsch. Naturf. Fr. Berlin: 195.

Brazil: Santa Catarina.

Genus *PIA* Philippi

1865. *Pia* Philippi, Verh. Zool.-Bot. Ges. Wien 15:742 (type *cyanea* Philippi).
1949. *Pia* Hull, Trans. Zool. Soc. London 26:329.

Region neotropical.

Pia cyanea Philippi

1865. *Pia cyanea* Philippi, Verh. Zool.-Bot. Ges. Wien 15:742, tab. 27, fig. 40.

Chile.

Genus *TRICHOPSOMYIA* Williston

1888. *Trichopsomyia* Williston, Trans. Amer. Ent. Soc. 15:259. (type *polita* Williston).
1927. *Halictomyia* Shannon, Proc. U. S. Nat. Mus. 70:13.
1937. *Trichopsomyia* Fluke, Amer. Mus. Novit. 941:1.
1949. *Pipiza* (*Trichopsomyia*) Hull, Trans. Zool. Soc. London 26:330.

Region neotropical.

Trichopsomyia boliviensis (Shannon)

1927. *Halictomyia boliviensis* Shannon, Proc. U. S. Nat. Mus. 70:13.

Bolivia: Cavinas, Beni.

Trichopsomyia currani Fluke

1937. *Trichopsomyia currani* Fluke, Amer. Mus. Novit. 941:2, fig.

Brazil: Nova Teutônia.

Trichopsomyia granditibialis Fluke

1937. *Trichopsomyia granditibialis* Fluke, Amer. Mus. Novit. 941:3.

Brazil: Nova Teutônia.

Trichopsomyia lasiotibialis Fluke

1937. *Trichopsomyia lasiotibialis* Fluke, Amer. Mus. Novit. 941:2, figs.

Brazil: Nova Teutônia.

Trichopsomyia longicornis Williston

1888. *Trichopsomyia longicornis* Williston, Trans. Amer. Ent. Soc. 15:261.

Brazil: Chapada.

Trichopsomyia polita Williston

1888. *Trichopsomyia polita* Williston, Trans. Amer. Ent. Soc. 15:260.

Brazil: Chapada.

Trichopsomyia puella Williston

1888. *Trichopsomyia puella* Williston, Trans. Amer. Ent. Soc. 15:260.

Brazil?

Trichopsomyia tuberculata Williston

1888. *Trichopsomyia tuberculata* Williston, Trans. Amer. Ent. Soc. 15:260.

Brazil: Chapada.

Trichopsomyia urania Hull

1949. *Trichopsomyia urania* Hull, Bul. Brook. Ent. Soc. 44:73.

Peru: Pucallpa.

Genus *CHRYSOGASTER* Meigen

1803. *Chrysogaster* Meigen, Illiger's Mag. 2:274 (type *solstitialis* Fuller).
1822. *Chrysogaster* Meigen, Syst. Beschr. Eur. Zweif. Ins. 3:265.
1834. *Orthoneura* Macquart, Hist. Nat. Ins., Dipt. (Suites à Buffon), 1:563.
1857. *Campeneura* Rondani, Dipt. Ital. Prodr. 2:163.
1859. *Cryptineura* Bigot, Rev. et Mag. Zool.: 308.
1862. *Chrysogaster* and *Orthoneura* Schiner, Fauna Austr. 1:266 and 271.
1886. *Chrysogaster* Williston, U. S. Nat. Mus. Bul. 31:31.
1905. *Chrysogaster* Aldrich, Cat. Dipt. 348.
1922. *Chrysogaster* Shannon, Ins. Insci. Mens. 10:121.
1933. *Chrysogaster* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:140.
1945. *Chrysogaster* Goffe, Ent. Mont. Mag. 81:243.
1949. *Chrysogaster* Hull, Trans. Zool. Soc. London 26:331.

Region worldwide.

Chrysogaster annulifera (Bigot)

1884. *Orthoneura? annulifera* Bigot, Ann. Ent. Soc. France: 556.
1933. *Chrysogaster? annulifera* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:140.

Brazil.

Chrysogaster argentina Brèthes

1922. *Chrysogaster argentina* Brèthes, An. Soc. Cient. Argentina 93:141.

Argentina: Buenos Aires.

Chrysogaster bellula Williston

1882. *Chrysogaster bellula* Williston, Trans. Amer. Phil. Soc. 20:304.
1886. *Chrysogaster bellula* Williston, U. S. Nat. Mus. Bul. 31:36, fig.
1891. *Chrysogaster bellula* Williston, Biol. Centr. Amer., Dipt. 3:7.
1905. *Chrysogaster bellula* Aldrich, Cat. Dipt. 348.

Mexico: Ciudad, Patzcuaro.

Chrysogaster gewgaw Hull

1941. *Chrysogaster gewgaw* Hull, Psyche 48: 152, pl. 10, fig. 11.

Cuba: Soledad.

Chrysogaster labyrinthops Hull

1944. *Chrysogaster labyrinthops* Hull, Rev. de Ent. 15:44.

Argentina: Potrerillos, Mendoza.

Chrysogaster lugubris Jaennicke

1867. *Chrysogaster lugubris* Jaennicke, Abh. Senck. Ges. Frankfurt 6:404.
1887. *Chrysogaster* (*Pipiza*) *lugubris* Williston, Ent. Amer. 3:28.

Chile.

Chrysogaster neotropica Shannon

1925. *Chrysogaster neotropica* Shannon, Proc. Ent. Soc. Wash. 27:107.

Paraguay.

Chrysogaster nitida Wiedemann

1830. *Chrysogaster nitidus* Wiedemann, Ausser. Zweif. Ins. 2:116, 1.
1849. *Paragus aeneus* Walker, List, etc. 3:545.
1859. *Cryptineura hieroglyphica* Bigot, Rev. et Mag. Zool.: 308.
1863. *Orthoneura hieroglyphica* Loew, Berl. Ent. Zeitsch. 4:58.
1868. *Orthoneura nitida* Schiner, Reise Novara Dipt. 368.
1886. *Chrysogaster nitida* Williston, U. S. Nat. Mus. Bul. 31:35, tab. 2, fig. 7.
1891. *Chrysogaster nitida* Williston, Biol. Centr. Amer., Dipt. 3:7.
1905. *Chrysogaster nitida* Aldrich, Cat. Dipt. 349.
1905. *Orthoneura nitida* Osten Sacken, Cat. Dipt. 121.
1926. *Chrysogaster nitida* Curran, Can. Ent. 58:114.

South America; Mexico: Vera Cruz, Amula.

Chrysogaster quadristriata Shannon & Aubertin

1933. *Chrysogaster quadristriata* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:140.

Chile; Argentina.

Chrysogaster shannoni Curran

1924. *Chrysogaster shannoni* Curran, Kans. Univ. Sci. Bul. 15:119.

Costa Rica: Huguito, San Mateo.

Genus ALIPUMILIO Shannon

1927. *Alipumilio* Shannon, Proc. U. S. Nat. Mus. 70:12, figs 1, 2, 3 (type *femoratus* Shannon).
1949. *Allipumilio* Hull, Trans. Zool. Soc. London 26:333.

Region neotropical.

Alipumilio femoratus Shannon

1927. *Alipumilio femoratus* Shannon, Proc. U. S. Nat. Mus. 70:12.

Amazons.

Genus *LEPIDOSTOLA* Mik

1864. *Lepidomyia* Loew (not Bigot), Berl. Ent. Zeitsch. 5:38 (type *calopus* Loew).
1886. *Lepidostola* Mik, Wien Ent. Zeitsch. 5:278.
1886. *Lepromyia* Williston, U. S. Nat. Mus. Bul. 31:31.
1891. *Lepidomyia* Arribálzaga, An. Soc. Cient. Argentina 32:42.
1905. *Lepromyia* Aldrich, Cat. Dipt. 348.

1929. *Lepidostola* Curran, Ann. Ent. Soc. Amer. 22:495.
1946. *Lepidostola* Hull, Amer. Mus. Novit. 1326:1.
1949. *Lepidostola* Hull, Trans. Zool. Soc. London 26:333.

Region neotropical.

Lepidostola abdominalis Williston

1888. *Lepidostola abdominalis* Williston, Trans. Amer. Ent. Soc. 15:202.
1946. *Lepidostola abdominalis* Hull, Amer. Mus. Novit. 1326:9.

Brazil: Chapada.

Lepidostola brèthesi Shannon

1928. *Lepidostola brèthesi* Shannon, Mus. Nac. Hist. Nat., Buenos Aires 34:573.
1946. *Lepidostola brèthesi* Hull, Amer. Mus. Novit. 1326:10.

Bolivia.

Lepidostola calopus (Loew)

1864. *Lepidomyia calopus* Loew, Berl. Ent. Zeitsch. 8:69.
1886. *Lepromyia calopus* Williston, U. S. Nat. Mus. Bul. 31:31.
1905. *Lepromyia calopus* Aldrich, Cat. Dipt. 348.
1946. *Lepidostola calopus* Hull, Amer. Mus. Novit. 1326:9, figs. 2, 11, 18, 27, 32.

Cuba: Santiago de las Vegas, Havana.

Lepidostola colombia Curran

1929. *Lepidostola colombia* Curran, Ann. Ent. Soc. Amer. 22:495.
1946. *Lepidostola colombia* Hull, Amer. Mus. Novit. 1326:10.

Colombia: Rio Frio, Magdalena.

Lepidostola crepuscustella Hull

1946. *Lepidostola crepuscustella* Hull, Amer. Mus. Novit. 1326:4, figs. 3, 16, 19, 28.

Brazil: Nova Teutônia.

Lepidostola dionysiana D'Andretta & Carrera

1952. *Lepidostola dionysiana* D'Andretta & Carrera, Pap. Avul. 10:300, figs.

Brazil: Acre (Dep. Zool. S. Paulo).

Lepidostola jenningsi Shannon

1925. *Lepidostola jenningsi* Shannon, Proc. Ent. Soc. Wash. 27:108.
1946. *Lepidostola jenningsi* Hull, Amer. Mus. Novit. 1326:5, figs. 6, 10, 21, 35.

Panama.

Lepidostola ortalina (Wulp)

1888. *Lepidomyia ortalina* Wulp, Tijd. v. Ent. 31:374.
1891. *Lepidomyia ortalina* Arribálzaga, An. Soc. Cient. Argentina 32:43.
1946. *Lepidostola ortalina* and var. *lactivia* Hull, Amer. Mus. Novit. 1326:8, 9, figs. 7, 14, 25, 30.

Argentina: Buenos Aires, Tucumán; Brazil: Chapada.

Lepidostola perpolita Johnson

1921. *Lepidostola perpolita* Johnson, Psyche 28:56.
1946. *Lepidostola perpolita* Hull, Amer. Mus. Novit. 1326:5.

Mexico.

Lepidostola pulchra Williston

1888. *Lepidostola pulchra* Williston, Trans. Amer. Ent. Soc. 15:261.
1946. *Lepidostola pulchra* Hull, Amer. Mus. Novit. 1326:5.
1952. *Lepidostola pulchra* D'Andretta & Carrera, Pap. Avul. 10:302.

Brazil: Chapada, Acre.

Lepidostola scintillans Hull

1946. *Lepidostola scintillans* Hull, Amer. Mus. Novit. 1326:3, figs. 12, 20, 31.
1949. *Lepidostola* (*Protolepidostola*) *scintillans* Hull, Trans. Zool. Soc. London 26:333.

Brazil: Nova Teutônia.

Lepidostola similis Williston

1888. *Lepidostola similis* Williston, Trans. Amer. Ent. Soc. 15:262.
1946. *Lepidostola similis* Hull, Amer. Mus. Novit. 1326:5, figs 1, 15, 26, 29.

Brazil: São Paulo, Chapada.

Lepidostola stellata Hull

1941. *Lepidostola stellata* Hull, Amer. Mus. Novit. 1151:1.
1946. *Lepidostola stellata* Hull, Amer. Mus. Novit. 1326:11, figs. 8, 13, 24, 33.

Brazil: São Paulo.

Lepidostola trilineata Hull

1941. *Lepidostola trilineata* Hull, Amer. Mus. Novit. 1151:2.
1946. *Lepidostola trilineata* Hull, Amer. Mus. Novit. 1326:11, figs. 5, 9, 22, 36.

Brasil: Mato Grosso.

Lepidostola vulturella Hull

1946. *Lepidostola vulturella* Hull, Amer. Mus. Novit. 1326:7, figs. 4, 17, 23, 24.

Brazil: Nova Teutônia; Argentina: Tucumán (Villa Nougues, Villa P. Monti).

Genus *CACOCERIA* Hull

1930. *Cacomyia* Hull, (Preoc.), Trans. Amer. Ent. Soc. 56:147.
1936. *Cacoceria* Hull, Ent. News 47:227 (type *cressoni* Hull).
1949. *Cacoceria* Hull, Trans. Zool. Soc. London 26:371.

Region neotropical.

Cacoceria cressoni (Hull)

1930. *Cacomyia cressoni* Hull, Trans. Amer. Ent. Soc. 56:147, pl. 9, figs. 1, 3, 4.
1936. *Cacoceria cressoni* Hull, Ent. news 47:227.

Mexico.

Cacoceria willistoni Hull

1949. *Cacoceria willistoni* Hull, Ent. News 60:225.

Peru (Hull Coll.); Argentina: Tucumán.

Genus *MYIOLEPTA* Newman

1838. *Myolepta* Newman, Ent. Mag. 5:373 (type *luteola* Gmelin).
1841. *Myiolepta* Newman, Hist. Ins. London: 226.
1844. *Xylotaeja* Rondani, Nuo. Ann. Sci. Nat. Bologna 2:457.
1857. *Leiota* Rondani, Dipt. Ital. Prodr. 2:176.
1857. *Xylotoeja* Rondani, Dipt. Ital. Prodr. 2:96.
1862. *Myiolepta* Schiner, Fauna Austr. 1:324.
1865. *Priomerus* Philippi, Verh. Zool.-Bot. Ges. Wien 15:739.
1886. *Myiolepta* Williston, U. S. Nat. Mus. Bul. 31:127.
1901. *Myiolepta* Verrall, Brit. Flies, Syrph. 572.
1905. *Myiolepta* Aldrich, Cat. Dipt. 354.
1914. *Myiolepta* Hine, Ohio Nat. 14:205.
1916. *Myiolepta* Shannon, Proc. Biol. Soc. Wash. 29:198.
1922. *Myiolepta* Shannon, Ins. Insci. Mens. 10:122.
1924. *Myiolepta* Curran, Kans. Univ. Sci. Bul. 15:165.
1941. *Sarolepta* Hull, Jour. Wash. Acad. Sci. 31:436.
1943. *Myiolepta* Goffe, Ent. Mont. Mag. 80:28.
1949. *Myiolepta, Eumyiolepta* and *Sarolepta* Hull, Trans. Zool. Soc. London 26:339 and 340.

Regions: palearctic, nearctic, neotropical, oriental.

Myiolepta auricaudata Williston

1891. *Myiolepta auricaudata* Williston, Biol. Centr. Amer., Dipt. 3:40, tab. 1, fig. 11.

1905. *Myiolepta auricaudata* Aldrich, Cat. Dipt. 354.
1914. *Myiolepta auricaudata* Hine, Ohio Nat. 14:210.

U.S.A.: Arizona; Mexico: Xucumanatlan, Cuernavaca.

Myiolepta dolorosa (Hull)

1941. *Sarolepta dolorosa* Hull, Jour. Wash. Acad. Sci. 31:436.
1949. *Myiolepta dolorosa* Hull, Trans. Zool. Soc. London 26:340.

Venezuela.

Myiolepta greenei Hull

1941. *Myiolepta greenei* Hull, Jour. Wash. Acad. Sci. 31:435.

Argentina: Villa Nouges (Prov. Tucumán).

Myiolepta haemorrhoidalis (Philippi)

1865. *Priomerus? haemorrhoidalis* Philippi, Verh. Zool.-Bot. Ges. Wien 15:740.
1933. *Myiolepta haemorrhoidalis* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:151.

Chile: Santiago:

Myiolepta luctuosa (Bigot)

1857. *Helophilus luctuosus* Bigot, Ann. Soc. Ent. France: 296.
1863. *Xiloteja luctuosa* Rondani, Archiv. per la Zool. 3:9.
1865. *Helophilus luctuosa* Philippi, Verh. Zool.-Bot. Ges. Wien 15:743 and 739 (*?Priomerus*).
1868. *Myiolepta luctuosa* Schiner, Reise Novara Diptera 367.
1890. *Myiolepta luctuosa* Mik, Wien Ent. Zeitsch. 9:295.
1933. *Myiolepta luctuosa* Shannon & Aubertin, Dipt. Patagonia C. Chile 6:151.

Chile.

Myiolepta transversa Hine

1913. *Myiolepta transversa* Hine, Ohio Nat. 14:208.

Honduras: Puerto Cortez.

Genus *EUMYIOLEPTA* Shannon

1922. *Eumyiolepta* Shannon, Bul. Brook. Ent. Soc. 16:71 (type *strigilata* Loew).
1949. *Myiolepta* (*Eumyiolepta*) Hull, Trans. Zool. Soc. London 26:340.

Regions: nearctic and neotropical.

Eumyiolepta braziliana Shannon

1927. *Eumyiolepta braziliana* Shannon, Proc. U. S. Nat. Mus. 70:14.

Brazil: Terezópolis.

Eumyiolepta circularis Hull

1941. *Eumyiolepta circularis* Hull, Jour. Wash. Acad. Sci. 31:434.

Argentina: Villa Nouges (Prov. Tucumán).

Genus *ODYNEROMYIA* Shannon & Aubertin

1933. *Odyneromyia* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:156 (type *odyneroides* Philippi).
1949. *Odyneromyia* Hull, Trans. Zool. Soc. London 26:335.

Region neotropical.

Odyneromyia odyneroides (Philippi)

1865. *?Doros odyneroides* Philippi, Verh. Zool.-Bot. Ges. Wien 15:747.
1933. *Odyneromyia odyneroides* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:156.

Chile.

Odyneromyia valdiviformis Shannon & Aubertin

1933. *Odyneromyia valdiviformis* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:157.

Argentina.

Genus *VALDIVIA* Shannon

1927. *Valdivia* Shannon, Proc. U. S. Nat. Mus. 70:31 (type *darwini* Shannon).
1933. *Valdivia* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:149.
1949. *Valdivia* Hull, Trans. Zool. Soc. London 26:339.

Region neotropical.

Valdivia albimanus (Bigot)

1883. *Ocyptamus albimanus* Bigot, Ann. Soc. Ent. France: 325.
1933. *Valdivia albimanus* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:149.

Chile.

Valdivia darwini Shannon

1927. *Valdivia darwini* Shannon, Proc. U. S. Nat. Mus. 70:32.

Chile: Valdivia.

Valdivia edwardsi Shannon & Aubertin

1933. *Valdivia edwardsi* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:150.

Argentina.

Valdivia nigra Shannon

1927. *Valdivia nigra* Shannon, Proc. U. S. Nat. Mus. 70:32.
1933. *Valdivia nigra* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:149.

Chile: Santiago.

Valdivia ruficauda Shannon

1927. *Valdivia ruficauda* Shannon, Proc. U. S. Nat. Mus. 70:32.
1933. *Valdivia ruficauda* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:150.

Chile: Santiago.

Genus *CHAMAESPHEGINA* Shannon & Aubertin

1933. *Chamaesphegina* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:145, fig. (type *argentifacies* Shannon & Aubertin).
1937. *Desmetrum* Enderlein, Sitz Gesellsch. Naturf. Fr. Berlin: 193.
1949. *?Desmetrum* Hull, Trans. Zool. Soc. London 26:335.
1949. *Chamaesphegina* Hull, Trans. Zool. Soc. London 26:339.

Region neotropical.

Chamaesphegina argentifacies Shannon & Aubertin

1933. *Chamaesphegina argentifacies* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:145, fig.

Argentina.

Chamaesphegina macrum (Enderlein)

1937. *Desmetrum macrum* Enderlein, Sitz. Gesellsch. Naturf. Fr. Berlin: 194.

Chile.

Genus *RHINGIA* Scopoli

1763. *Rhingia* Scopoli, Ent. Carniol.: 358 (type *rostrata* Linneaus).
1822. *Rhingia* Meigen, Syst. Beschr. Zweif. Ins. 3:257.
1841. *Rhingia* Newman, Hist. Ins. Syrph.: 226.
1862. *Rhingia* Schiner, Fauna Austr. 1:325.
1886. *Rhingia* Williston, U. S. Nat. Mus. Bul. 31:129.
1901. *Rhingia* Verral, Brit. Flies, Syrph.: 477.
1905. *Rhingia* Aldrich, Cat. Dipt. 375.
1949. *Rhingia* Hull, Trans. Zool. Soc. London 26:340.

Regions: palearctic, nearctic, neotropical, ethiopian, oriental.

Rhingia harrisi Curran

1925. *Rhingia harrisi* Curran, Ann. Mag. Nat. Hist. (9) 16:253.

Brazil: Rio de Janeiro.

Rhingia longirostris Fluke

1943. *Rhingia longirostris* Fluke, Ann. Ent. Soc. Amer. 36:430, figs.

Ecuador.

Rhingia nigra Macquart

1845. *Rhingia nigra* Macquart, Dipt. Exot. 1 Suppl.: 133, tab. 11, fig. 10.
1891. *Rhingia nigra* Williston, Biol. Centr. Amer., Dipt. 3:40.
1905. *Rhingia nigra* Aldrich, Cat. Dipt. 375.
1910. *Lycastrirrhyncha nigra* Kertész, Cat. Dipt. 7:207.

Colombia; Mexico: Teapa.

Genus *CALLICERA* Panzer

1806. *Callicera* Panzer, Fauna Germ. 104: tab. 17 (type *aenea* Fabricius).
1949. *Callicera* Hull, Trans. Zool. Soc. London 26:341.

Regions: palearctic, nearcti, neotropical, oriental.

Callicera poultoni Verrall

1913. *Callicera poultoni* Verral, Trans. Ent. Soc. London: 332.

Mexico.

Genus *VOLUCELLA* Geoffroy

1764. *Volucella* Geofroy, Hist. Ins. Env. Paris 2:540 (type *pellucens* Linneaus).
1803. *Pterocera* Meigen, Illiger's Mag. 2:275.
1825. *Temnocera* Lapeletier and Serville, Encyc. Meth. 10:786.
1841. *Volucella* Neuman, Hist. Ins. London 226.
1842. *Temnocera* Macquart, Dipt. Exot. 2, 2:26.
1848. *Phalacromya* Rondani, Truq. Studi Ent. 1:67.
1862. *Volucella* Schiner, Fauna Austr. 1:328.
1869. *Glaurotricha* Thomson, Eugenies Resa, Dipt.: 493.
1882. *Atemnocera* Bigot, Bul. Soc. Ent. France: 114.
1883. *Glaurotricha* Bigot, Ann. Ent. Soc. France: 250.
1886. *Volucella* and *Glaurotricha* Williston, U. S. Nat. Mus. Bul. 31:134 and 301.
1888. *Volucella* Williston, Trans. Amer. Ent. Soc. 15:271.
1891. *Phalacromyia* and *Volucella* Williston, Biol. Centr. Amer., Dipt. 3:40 and 43.
1891. *Volucella* and *Temnocera* Arribálzaga, An. Soc. Cient. Argentina 32:124.
1892. *Camerania* Giglio-Tos, Boll. Mus. Zool. Torino 7:3.
1897. *Volucella* Townsend, Ann. Mag. Nat. Hist. 20:26.
1901. *Volucella* Verrall, Brit. Dipt. Syrph. 482.
1905. *Glaurotricha, Volucella* and *Phalacromyia* Aldrich, Cat. Dipt. 351, 376 and 382.
1916. *Volucella* Knab, Ins. Insci. Mens. 4:134.
1926. *Volucella* Curran, Ann. Ent. Soc. Amer. 19:50.
1928. *Volucella* Curran, New York Acad. Sci. 11:41.
1930. *Volucella* Curran, Amer. Mus. Novit. 413:1.
1930. *Volucella* Curran, Amer. Mus. Novit. 416:3.

1933. *Volucella* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:166.
1934. *Volucella* Curran, Amer. Mus. Novit. 882:8.
1939. *Volucella* Curran, Amer. Mus. Novit. 1027 and 1028.
1945. *Volucella* Goffe, Ent. Mont. Mag. 81:247.
1949. *Volucella* Hull, Trans. Zool. Soc. London 26:347.
1951. *Volucella* Fluke, Amer. Mus. Novit. 1503:1.

Regions: palearctic, nearctic, neotropical, oriental, holarctic.

Volucella abdominalis Wiedemann

1830. *Volucella abdominalis* Wiedemann, Ausser. Zweif. Ins. 2:196.
1842. *Volucella abdominalis* Macquart, Dipt. Exot. 2, 2:25.
1895. *Volucella abdominalis* Townsend, Trans. Amer. Ent. Soc. 22:39.
1905. *Volucella abdominalis* Aldrich, Cat. Dipt. 377.
1914. *Volucella abdominalis* Hine, Ohio Nat. 14:338.
1926. *Volucella abdominalis* Curran, Ann. Ent. Soc. Amer. 19:64.

Cuba; Jamaica.

Volucella abrupta (Curran)

1925. *Phalacromyia abrupta* Curran, Ann. Mag. Nat. Hist. (9) 16:251.
1926. *Volucella spinigera* Curran, Ann. Ent. Soc. Amer. 19:59.
1939. *Volucella abrupta* Curran, Amer. Mus. Novit. 1027:2.
1951. *Volucella abrupta* Fluke, Amer. Mus. Novit. 1503:22, figs. 10, 19, 34, 44.

Brazil: Bahia.

Volucella acutifrons Curran

1939. *Volucella acutifrons* Curran, Amer. Mus. Novit. 1028:12.

Peru: Tarapoto Region, Iquitos (Amer. Museum).

Volucella aemula Williston

1888. *Volucella aemula* Williston, Trans. Amer. Ent. Soc. 15:272.

Brazil.

Volucella albifrons Curran

1939. *Volucella albifrons* Curran, Amer. Mus. Novit. 1028:16.

Brazil: Nova Teutônia (Amer. Museum).

Volucella albipilosa Hull

1937. *Volucella albipilosa* Hull, Jour. Wash. Acad. Sci. 27:166.

Mexico: San Martin.

Volucella alcedo Curran

1934. *Volucella alcedo* Curran, Bul. Amer. Mus. Nat. Hist. 66:388.

Br. Guiana; Venezuela (Amer. Museum).

Volucella alcedoides Curran

1939. *Volucella alcedoides* Curran, Amer. Mus. Novit. 1028:11.

Trinidad: St. Ann's, Dabadie (Amer. Museum).

Volucella ambrosettii Arribálzaga

1893. *Volucella ambrosettii* Arribálzaga, An. Soc. Cient. Argentina 32:129.

Argentina.

Volucella amethystina Bigot

1875. *Volucella amethistina* (sic) Bigot, Ann. Soc. Ent. France: 479.
1891. *Volucella amethystina* Williston, Centr. Amer., Dipt. 3:52.
1905. *Volucella amethystina* Aldrich, Cat. Dipt. 377.

Mexico: Presidio.

Volucella aperta Walker

1858. *Volucella aperta* Walker, Trans. Ent. Soc. (N. Ser.) 5:292.
1905. *Volucella aperta* Aldrich, Cat. Dipt. 377.

Mexico.

Volucella apicalis Loew

1865. *Volucella apicalis* Loew, Centur. 6:36.
1886. *Volucella apicalis* Williston, U. S. Nat. Mus. Bul. 31:149.
1905. *Volucella apicalis* Aldrich, Cat. Dipt. 377.

Cuba.

Volucella apicula Curran

1939. *Volucella apicula* Curran, Amer. Mus. Novit. 1028:6.
1952. *Volucella apicula* D'Andretta & Carrera, Pap. Avul. 10:305.

Peru: Middle Rio Ucayali; Panama: Canal Zone; Brazil: Acre (Amer. Museum).

Volucella ardua Wiedemann

1830. *Volucella ardua* Wiedemann, Ausser. Zweif. Ins. 2:204.
1848. *Volucella ardua* Rondani, Ditt. Brazil 1.
1892. *Volucella ardua* Giglio-Tos, Ditt. del Messico 43:56.
1905. *Volucella ardua* Aldrich, Cat. Dipt. 377.
1914. *Volucella ardua* Hine, Ohio Nat. 14:340 (syn. of *tympanitis* Fabricius?).

Surinam; Brazil; Mexico.

Volucella arica Fluke

1950. *Volucella arica* Fluke, Acta Zool. Lill. 9:450, figs.

Chile: Arica (Univ. Chile).

Volucella aricia Curran

1930. *Volucella aricia* Curran, Amer. Mus. Novit. 413:22.
1951. *Volucella aricia* Fluke, Amer. Mus. Novit. 1503:27.

Argentina: Mendoza (Amer. Museum).

Volucella astarte Hull

1950. *Volucella astarte* Hull, Bul. Brook. Ent. Soc. 45:70.

Peru: Pucallpa.

Volucella aster Curran

1939. *Volucella aster* Curran, Amer. Mus. Novit. 1028:3.

Peru: Piches, Perenes (Amer. Museum).

Volucella aurea Fluke

1951. *Volucella aurea* Fluke, Amer. Mus. Novit. 1503:13, figs 6, 27.

Colombia: Zipacoa, Lund.

Volucella avida Osten Sacken

1877. *Volucella avida* Osten Sacken, Bul. U. S. Geol. & Geog. Surv. 3:333.
1886. *Volucella avida* Williston, Bull. U. S. Nat. Mus. 31:139, tab. 6, fig. 12.
1891. *Volucella avida* Williston, Biol. Centr. Amer., Dipt. 3:47.
1899. *Volucella avida* Hubbard, Psyche 1:1:.
1905. *Volucella avida* Aldrich, Cat. Dipt. 377.
1912. *Volucella avida* Hunter, U.S.D.A. Bur. Ent. Bull. 113:38.
1916. *Volucella avida* Cockerell, Ent. News 27:180.

North America; Mexico: Jaral.

Volucella azurea Philippi

1865. *Volucella azurea* Philippi, Verh. Zool.-Bot. Ges. Wien 15:734.
1914. *Volucella azurea* Hine, Ohio Nat. 14:338.
1933. *Volucella azurea* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:169.

Chile; Argentina.

Volucella azurina Hull

1941. *Volucella azurina* Hull, Jour. Wash. Acad. Sci. 31:314.

Brazil: Bonito.

Volucella bassleri Curran

1939. *Volucella bassleri* Curran, Amer. Mus. Novit. 1028:9.

Peru: Iquitos (Amer. Museum).

Volucella beatricea Hull

1950. *Volucella beatricea* Hull, Rev. de Ent. 21:235.
Ecuador.

Volucella belinda Hull

1949. *Volucella belinda* Hull, Ent. News 60:31.
Brazil: Nova Teutônia.

Volucella bellula (Williston)

1891. *Phalacromyia bellula* Williston, Biol. Centr. Amer., Dipt. 3:42.
1905. *Phalacromyia bellula* Aldrich, Cat. Dipt. 382.
Mexico: Temax.

Volucella bequaerti Curran

1936. *Volucella bequaerti* Curran, Amer. Mus. Novit. 882:9.
Mexico; Guatemala.

Volucella bipunctata (Hull)

1941. *Phalacromyia bipunctata* Hull, Psyche 48:157.
Paraguay: Pastorea.

Volucella boliviana Hine

1914. *Volucella boliviana* Hine, Ohio Nat. 14:338.
Bolivia; Peru (Ohio State Museum).

Volucella bradleyi Curran

1925. *Volucella bradleyi* Curran, Ann. Mag. Nat. Hist. (9) 16:348.
1951. *Volucella bradleyi* Fluke, Amer. Mus. Novit. 1503:26.
Chile: Arica; Peru: Yura, Arequipa.

Volucella braziliana Hull

1938. *Volucella braziliana* Hull, Ann. Carnegie Museum 27:124, pl. 8. fig. 4.
Brazil: Hyatanahan, Rio Purus.

Volucella brevifacies Curran

1934. *Volucella brevifacies* Curran, Bul. Amer. Mus. Nat. Hist. 66:386.
Br. Guiana: Kartabo; Argentina: Tucumán.

Volucella brevis Giglio-Tos

1892. *Volucella brevis* Giglio-Tos, Boll. Mus. Zool., Torino 7:4.
1892. *Volucella brevis* Giglio-Tos, Ditt. del Messico 43:42.
1905. *Volucella brevis* Aldrich, Cat. Dipt. 377.

Mexico (Torino, Italy).

Volucella brevivittata Curran

1930. *Volucella brevivittata* Curran, Amer. Mus. Novit. 413:14.

Brazil: Chapada; Argentina: Misiones.

Volucella bruneri Curran

1939. *Volucella bruneri* Curran, Amer. Mus. Novit. 1028:6.

Cuba: Oriente (Amer. Museum).

Volucella brunnicolor Hull

1938. *Volucella brunnicolor* Hull, Ann. Carnegie Museum 27:123, pl. 8, figs. 8, 9.

Brazil: Santarem.

Volucella brunnigaster Hull

1943. *Volucella brunnigaster* Hull, Jour. Wash. Acad. Sci. 33:41.

Colombia (U. S. Nat. Museum).

Volucella bulbosa Fluke

1951. *Volucella bulbosa* Fluke, Amer. Mus. Novit. 1503:24, figs. 13, 35, 45, 63.

Ecuador: Minza Chica, V. Tungurahua; Argentina: El Molle, Tucumán.

Volucella caesariata Williston

1891. *Volucella caesariata* Williston, Biol. Centr. Amer., Dipt. 3:49.
1892. *Volucella caesariata* Giglio-Tos, Boll. Mus. Zool., Torino 7:4.
1892. *Volucella caesariata* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:60.
1905. *Volucella caesariata* Aldrich, Cat. Dipt. 377.

Mexico: Orizaba, Meztillan.

Volucella calochaeta Hull

1941. *Volucella calochaeta* Hull, Jour. Wash. Acad. Sci. 31:313.

Brazil.

Volucella camposi Curran

1939. *Volucella camposi* Curran, Amer. Mus. Novit. 1028:8.

Ecuador (Amer. Museum); Argentina: Tucumán.

Volucella castanea Bigot

1875. *Volucella castanea* Bigot, Ann. Soc. Ent. France: 476.
1895. *Volucella castanea* Townsend, Trans. Amer. Ent. Soc. 22:41.
1905. *Volucella castanea* Aldrich, Cat. Dipt. 377.

Mexico: Oaxaca, Jalisco.

Volucella chaetogaster Hull

1943. *Volucella chaetogaster* Hull, Ann. Mag. Nat. Hist. (11)10:22.

Brazil: Amazon.

Volucella chaetophora Williston

1886. *Volucella chaetophora* Williston, U. S. Nat. Mus. Bul. 31:149.
1891. *Volucella chaetophora* Williston, Biol. Centr. Amer., Dipt. 3:52, tab. 1, fig. 15.
1905. *Volucella chaetophora* Aldrich, Cat. Dipt. 377.

Mexico: Acapulco, Isthmus of Tehuantepec, Temax.

Volucella chalybescens Wiedemann

1830. *Volucella chalybescens* Wiedemann, Ausser. Zweif. Ins. 2:204.
1867. *Volucella chalybescens* Jaennicke, Neue Exot. Dipt.: 4.
1892. *Volucella chalybescens* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:52.
1926. *Volucella chalybescens* Curran, Ann. Ent. Soc. Amer. 19:59.
1930. *Volucella chalybescens* Curran, Amer. Mus. Novit. 413:13.

Brazil: Cuba, Columbia: Magdalena.

Volucella chapadensis Curran

1930. *Volucella chapadensis,* Curran, Amer. Mus. Novit. 413:13.

Brazil: Chapada; Argentina: Tucumán.

Volucella chlorosa Hull

1930. *Volucella chlorosa* Hull, Trans. Amer. Ent. Soc. 56:148.

Mexico.

Volucella cinctiventris Curran

1930. *Volucella cinctiventris* Curran, Amer. Mus. Novit. 413:16.

Canal Zone: Barro Colorado Island.

Volucella circe Curran

1939. *Volucella circe* Curran, Amer. Mus. Novit. 1028:1.

Brazil: Nova Teutônia (Amer. Museum).

Volucella circumscripta Curran

1939. *Volucella circumscripta* Curran, Amer. Mus. Novit. 1028:13.

Brazil: São Paulo (Amer. Museum).

Volucella clara Hull

1942. *Volucella clara* Hull, Psyche 49:22.

Brazil: São Paulo, Ipiranga, Lange de Moretes.

Volucella claripennis (Curran)

1925. *Phalacromyia claripennis* Curran, Ann. Mag. Nat. Hist. (9) 16:247.

Peru.

Volucella cockerelli Curran

1925. *Volucella cockerelli* Curran, Bul. Brook. Ent. Soc. 22:85.
1951. *Volucella cockerelli* Fluke, Amer. Mus. Novit. 1503:17, figs. 46, 60.

Chile: Mini-Mini; Peru: Tingo, Canete.

Volucella comastes Williston

1891. *Volucella comastes* Williston, Biol. Centr. Amer., Dipt. 3:52.
1905. *Volucella comastes* Aldrich, Cat. Dipt. 377.

Mexico: Orizaba.

Volucella comstocki Williston

1886. *Volucella comstocki* Williston, U. S. Nat. Mus. Bul. 31:138, tab. 6, fig. 9.
1891. *Volucella comstocki* Townsend, Trans. Amer. Ent. Soc. 22:41.
1897. *Volucella comstocki* Townsend, Psyche 8:148.
1905. *Volucella comstocki* Aldrich, Cat. Dipt. 377.

Mexico: N. Sonora.

Volucella concinna Philippi

1865. *Volucella concinna* Philippi, Verh. Zool.-Bot. Ges. Wien 15:733.
1883. *Volucella concinna* Bigot, Ann. Soc. Ent. France: 74.
1933. *Volucella concinna* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:169.

Chile.

Volucella conifacia Hull

1943. *Volucella conifacia* Hull, Ann. Mag. Nat. Hist. (11)10:39.

Trinidad.

Volucella contumax Curran

1939. *Volucella contumax* Curran, Amer. Mus. Novit. 1028:4.

Brazil (Amer. Museum).

Volucella cordiae Townsend

1897. *Volucella cordiae* Townsend, Ann. Mag. Nat. Hist. 20:27.
1905. *Volucella cordiae* Aldrich, Cat. Dipt. 378.

Mexico: Vera Cruz.

Volucella correcta Curran

1891. *Volucella lugens?* Williston, Biol. Centr. Amer., Dipt. 3:54.
1927. *Volucella correcta* Curran, Bul. Brook. Ent. Soc. 22:87.

Costa Rica (Amer. Museum).

Volucella corumbensis Curran

1930. *Volucella corumbensis* Curran, Amer. Mus. Novit. 413:18.

Brazil: Corumba (Amer. Museum).

Volucella craverii Giglio-Tos

1892. *Volucella craverii* Giglio-Tos, Boll. Mus. Zool., Torino 7:2.
1892. *Volucella craverii* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:49.
1905. *Volucella craverii* Aldrich, Cat. Dipt. 378.

Mexico.

Volucella crepuscularia Hull

1942. *Volucella crepuscularia* Hull, Proc. New Eng. Zool. Club 19:94.

Brazil: Paranaguá, Paraná.

Volucella cruciata Hull

1943. *Volucella cruciata* Hull, Ann. Mag. Nat. Hist. (11)10:37.

Guatemala: Zapote.

Volucella cubomaculata Hull

1937. *Volucella cubomaculata* Hull, Jour. Wash. Acad. Sci. 27:167, fig. 5.

Peru: Iquitos.

Volucella cupricolor Hull

1948. *Volucella cupricolor* Hull, Bol. de Ent. Venezolana 7:6.

Venezuela.

Volucella curiosa Curran

1939. *Volucella curiosa* Curran, Amer. Mus. Novit. 1028:1.

Brazil: Nova Teutônia (Amer. Museum).

Volucella currani Fluke

1951. *Volucella currani* Fluke, Amer. Mus. Novit. 1503:12, figs. 5, 26, 48.

Ecuador: Imbabura, Cuenca, Azuay, Banos, Cuicocha.

Volucella cyanescens Macquart

1842. *Volucella cyanescens* Macquart. Dipt. Exot. 2, 2:24.
1934. *Volucella cyanescens* Curran, Bul. Amer. Mus. Nat. Hist. 66:387.

Br. Guiana: Bartica.

Volucella cyanoprocta Curran

1939. *Volucella cyanoprocta* Curran, Amer. Mus. Novit. 1028:11.

Peru; Br. Guiana: Wismar, Kamakusa (Amer. Museum).

Volucella cyanoprora Curran

1939. *Volucella cyanoprora* Curran, Amer. Mus. Novit. 1028:10.

Venezuela: Caura Valley (Amer. Museum).

Volucella deceptor (Curran)

1888. *Volucella fuscipennis* Williston, Trans. Amer. Ent. Soc. 15:276 (not Macquart).
1925. *Phalacromyia deceptor* Curran, Ann. Mag. Nat. Hist. (9) 16:248.
1930. *Volucella deceptor* Curran, Amer. Mus. Novit. 413:13, fig. 1.
1930. *Volucella deceptor* Curran, Amer. Mus. Novit. 413:13, fig. 1.

Brazil: Chapada (Amer. Museum).

Volucella delila Hull

1950. *Volucella delila* Hull, Rev. de Ent. 21:230.

Peru: Chanchamayo.

Volucella dichroica Giglio-Tos

1892. *Volucella dichroica* Giglio-Tos, Boll. Mus. Zool., Torino 7:3.
1892. *Volucella dichroica* Giglio-Tos, Mem. R. Accad. Sci., Torino 43:55.
1905. *Volucella dichroica* Aldrich, Cat. Dipt. 378.
1912. *Volucella dichroica* Townsend, Trans. Amer. Ent. Soc. 27:292.
1914. *Volucella dichroica* Hine, Ohio Nat. 14:338.

Guatemala; Mexico: Huastec.

Volucella dimorphia Curran

1939. *Volucella dimorphia* Curran, Amer. Mus. Novit. 1028:14.

Brazil: Nova Teutônia (Amer. Museum); Argentina: Tucumán (Siambon).

Volucella discalis Curran

1926. *Volucella discalis* Curran, Ann. Ent. Soc. Amer. 19:57.

Grenada: Grand Etang.

Volucella dispar Macquart

1845. *Volucella dispar* Macquart, Mem. Soc. Sci. Lille 2:123?, fig.
1914. *Volucella esuriens* Hine, Ohio Nat. 14:338.

Guatemala; New Grenada.

Volucella diversa Fluke

1951. *Volucella diversa* Fluke, Amer. Mus. Novit. 1503:11, figs. 3, 25, 38, 52.

Argentina: Tucumán, Catamarca, Mendoza, Rio Negro, Rio Colorado, Isla Choele, Choel.

Volucella dorsalis Wiedemann

1830. *Volucella dorsalis* Wiedemann, Ausser. Zweif. Ins. 2:199.
1883. *Volucella dorsalis* Bigot, Ann. Soc. Ent. France: 75.
1883. *Phalacromyia dorsalis* Mik, Wien Ent. Zeit. 2:284.
1886. *Phalacromyia dorsalis* Williston, Trans. Amer. Ent. Soc. 13:316.
1890. *Phalacromyia dorsalis* Mik, Wien Ent. Zeit. 9:296.
1926. *Volucella dorsalis* Curran, Ann. Ent. Soc. Amer. 19:61.

Brazil.

Volucella duida Curran

1930. *Volucella duida* Curran, Amer. Mus. Novit. 413:21.

Venezuela: Mt. Duida (Amer. Museum).

Volucella ecuadorea Fluke

1951. *Volucella ecuadorea* Fluke, Amer. Mus. Novit. 1503:14, figs. 7, 28, 51.

Ecuador: Cuenca, Azuay, Banos Cuichocha, Imbabura.

Volucella emeralda Hull

1943. *Volucella emeralda* Hull, Ann. Mag. Nat. Hist. (11) 10:20.

Brazil.

Volucella emilia Curran

1939. *Volucella emilia* Curran, Amer. Mus. Novit. 1028:6.

Guatemala: Sa Emilia, Pochuta (Amer. Museum).

Volucella ernesta Curran

1926. *Volucella ernesta* Curran, Ann. Ent. Soc. Amer. 19:55.

Panama: Tuipo; Guatemala: Cayuga.

Volucella ernestina Curran

1930. *Volucella ernestina* Curran, Amer. Mus. Novit. 416:5.

Mexico: Chichen Itza, Yucatan (Amer. Museum).

Volucella escomeli Curran

1929. *Volucella escomeli* Curran, Ann. Ent. Soc. Amer. 22:489.
1951. *Volucella escomeli* Fluke, Amer. Mus. Novit. 1503:16, figs. 15, 29, 40, 55.

Chile: Arica, Poroma, Mini-Mini, Tarapaca-Minita; Peru: Arequipa.

Volucella esuriens (Fabricius)

1775. *Syrphus esuriens* Fabricius, Syst. Ent. 4:281.
1805. *Syrphus esuriens* Fabricius, Syst. Antl. 226.
1830. *Volucella esuriens* Wiedemann, Ausser. Zweif. Ins. 2:197.
1868. *Volucella esuriens* Schiner, Reise Novara, Dipt. 356.
1885. *Volucella esuriens* Roeder, Stett. Ent. Zeit. 337.
1895. *Volucella esuriens* Townsend, Trans. Amer. Ent. Soc. 22:41.
1905. *Volucella esuriens* (in part) Aldrich, Cat. Dipt. 378.
1934. *Volucella esuriens* Curran, Bul. Amer. Mus. Nat. Hist. 66:387.

West Indies.

Volucella eugenia Williston

1886. *Volucella eugenia* Williston, U. S. Nat. Mus. Bul. 31:139, fig.
1905. *Volucella eugenia* Aldrich, Cat. Dipt. 378.
1914. *Volucella eugenia* Hine, Ohio Nat. 14:338.

Bahamas; Jamaica; Cuba.

Volucella externa Curran

1939. *Volucella externa* Curran, Amer. Mus. Novit. 1028:10.

Peru: Rio Maranon, Rio Santiago (Amer. Museum).

Volucella fasciata Macquart

1842. *Volucella fasciata* Macquart, Dipt. Exot. 2, 2:22, fig.
1877. *Volucella fasciata* Osten Sacken, Bul. U. S. Gel. & Geog. Surv. 3:334.
1886. *Volucella fasciata* Williston, U. S. Nat. Mus. Bul. 31:145, tab. 6, fig. 4.
1905. *Volucella fasciata* Aldrich, Cat. Dipt. 378.

Mexico; United States.

Volucella feminina Curran

1930. *Volucella feminina* Curran, Amer. Mus. Novit. 416:4.

Mexico: Chichen Itza, Yucatan (Amer. Museum).

Volucella flavissima Giglio-Tos

1892. *Volucella flavissima* Giglio-Tos, Boll. Mus. Zool., Torino 7:3.
1892. *Volucella flavissima* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:50.
1905. *Volucella flavissima* Aldrich, Cat. Dipt. 378.

Mexico: Orizaba (Univ. Torino, Italy).

Volucella florella Hull

1944. *Volucella florella* Hull, Rev. de Ent. 15:49.

Br. Guiana: Tumatumari, Potaro R.

Volucella flukei Curran

1936. *Volucella flukei* Curran, Amer. Mus. Novit. 882:10.

Brazil: Paraná (Amer. Museum).

Volucella fracta Curran

1926. *Volucella fracta* Curran, Ann. Ent. Soc. Amer. 19:58.

Fr. Guiana: Cayene (Amer. Museum).

Volucella fraudulenta Williston

1891. *Volucella fraudulenta* Williston, Biol. Centr. Amer., Dipt. 3:48, tab. 1, fig. 13.
1892. *Volucella fraudulenta* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:59.
1905. *Volucella fraudulenta* Aldrich, Cat. Dipt. 379.
1923. *Volucella fraudulenta* Hull, Ohio Jour. Sci. 23:297.

Mexico: Venta de Zopilote, Temax.

Volucella frauenfeldi (Schiner)

1868. *Temnocera frauenfeldi* Schiner, Reise Novara, Dipt. 358.

1891. *Volucella frauenfeldi* Arribálzaga, An. Soc. Cient. Argentina 34:244.
1933. *Volucella frauenfeldi* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:169.
1951. *Volucella frauenfeldi* Fluke, Amer. Mus. Novit. 1503:19, fig. 32.

Chile; Argentina: Tucumán, Mendoza, La Rioja.

Volucella fulvicornis Bigot

1883. *Volucella fulvicornis* Bigot, Ann. Soc. Ent. France: 84.
1905. *Volucella fulvicornis* Aldrich, Cat. Dipt. 379. — (see *spinigera* Wiedemann).

Panama.

Volucella fulvonotata Bigot

1875. *Volucella fulvonotata* Bigot, Ann. Soc. Ent. France: 476.
1892. *Volucella fulvonotata* Arribálzaga, An. Soc. Cient. Argentina 34:181.

Uruguay: Montevideo.

Volucella fumosa Hull

1943. *Volucella fumosa* Hull, Ann. Mag. Nat. Hist. (11) 10:32.

Brazil: Mt. Roraima.

Volucella furens Giglio-Tos

1892. *Volucella furens* Giglio-Tos, Boll. Mus. Zool.. Torino 7:2.
1892. *Volucella furens* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:48.
1905. *Volucella furens* Aldrich, Cat. Dipt. 379.

Mexico.

Volucella fuscipennis Macquart

1842. *Volucella fuscipennis* Macquart, Dipt. Exot. 2, 2:24, tab. 4, fig. 2.
1888. *Volucella fuscipennis* Williston, Trans. Amer. Ent. Soc. 15:276.
1905. *Volucella fuscipennis* Aldrich, Cat. Dipt. 379.
1921. *Volucella fuscipennis* Sack, Archiv. Naturg. 87:136, fig.

Brazil; Argentina: Tucumán (Villa Nouges).

Volucella fuscipennis Macquart

1849. *Volucella fuscipennis* Macquart, Dipt. Exot. 4 Suppl.: 131, fig.
1883. *Volucella fuscipennis* Bigot, Ann. Soc. Ent. France: 69.
1891. *Volucella fuscipennis* Williston, Biol. Centr. Amer., Dipt. 3:54.

South and Central America.

Volucella gertschi Curran

1939. *Volucella gertschi* Curran, Amer. Mus. Novit. 1028:15.

Panama: El Volcan, Chiriqui; Guatemala: Moca Guatalon.

Volucella gorgon Hull

1950. *Volucella gorgon* Hull, Rev. de Ent. 21:233.

Peru: Chanchamayo.

Volucella granulata Hull

1944. *Volucella granulata* Hull, Rev. de Ent. 15:50.

Peru: Puerto Bermudez, Rio Pichis.

Volucella guianica Hine

1914. *Volucella guianica* Hine, Ohio Nat. 14:338.

Br. Guiana.

Volucella haagii Jaennicke

1867. *Volucella haagii* Jaennicke, Abh. Senck. Ges. 6:397.
1877. *Temnocera setigera* Osten Sacken, Bul. U. S. Geol. & Geog. Surv. 3:334.
1883. *Temnocera setigera* Wulp, Tijd. v. Ent. 25:126, tab. 10, fig. 10.
1886. *Volucella haagii* Williston, U. S. Nat. Mus. Bul. 31:147, tab. 5, fig. 8.
1892. *Volucella haagi* Giglio-Tos, Mem. R. Accad. Sci., Torino 43:50.
1895. *Volucella haagi* Townsend, Trans. Amer. Ent. Soc. 22:43.
1895. *Volucella haagi* Townsend, Proc. Calif. Acad. Sci. 4:614.
1901. *Volucella haagi* Townsend, Trans. Amer. Ent. Soc. 27:161.
1905. *Volucella haagi* Aldrich, Cat. Dipt. 379.

Mexico.

Volucella hambletoni Fluke

1951. *Volucella hambletoni* Fluke, Amer. Mus. Novit. 1503:16, figs. 16, 41, 57.

Peru: Canete.

Volucella horticola Hull

1943. *Volucella horticola* Hull, Ann. Mag. Nat. Hist. (11) 10:21.

Brazil: Amazon.

Volucella hyalinipennis Hull

1944. *Volucella hyalinipennis* Hull, Bul. Brook. Ent. Soc. 39:36.

Brazil.

Volucella hyalopterus Giglio-Tos

1892. *Volucella hyalopterus* Giglio-Tos, Boll. Mus. Zool., Torino 7:3.

1892. *Volucella hyalopterus* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:57.
1905. *Volucella hyalopterus* Aldrich, Cat. Dipt. 379.
Mexico (Torino).

Volucella hydrofenestra Hull

1943. *Volucella hydrofenestra* Hull, Rev. de Ent. 14:513.
Colombia (Hull Coll.).

Volucella hystrix Giglio-Tos

1892. *Volucella hystrix* Giglio-Tos, Boll. Mus. Zool. Torino 7:4.
1892. *Volucella hystrix* Giglio-Tos, Mem. R. Accad. Sci., Torino 43:62.
1905. *Volucella hystrix* Aldrich, Cat. Dipt. 379.
Mexico (Torino).

Volucella imitans Curran

1929. *Volucella imitans* Curran, Ann. Ent. Soc. Amer. 19:63.
Mexico.

Volucella impressa Hull

1949. *Volucella impressa* Hull, Psyche 56:30.
Brazil: Nova Teutônia.

Volucella incommoda Knab

1916. *Volucella incommoda* Knab, Ins. Insci. Mens. 4:93.
Panama (U. S. Nat. Museum).

Volucella inconsistens Curran

1939. *Volucella inconsistens* Curran, Amer. Mus. Novit. 1028:3.
Brazil: Mt. Roraima (Amer. Museum).

Volucella ingenia Curran

1930. *Volucella ingenia* Curran, Amer. Mus. Novit. 416:4.
Bahamas: Gibson Cay, Mangrove Cay, Andros Island.

Volucella inquisitor Hull

1943. *Volucella inquisitor* Hull, Ann. Mag. Nat. Hist. (11) 10:26.
Mexico; Central America.

Volucella intona Curran

1927. *Volucella intona* Curran, App., Rec. & Descr. Dipt., Jamaica: 22.

Jamaica: Gordon Town.

Volucella isabellina Williston

1886. *Volucella isabellina* Williston, Syn. N-Amer. Syrphidae: 140.
1891. *Volucella isabellina* Williston, Biol. Centr. Amer., Dipt. 3:46.
1895. *Volucella isabellina* Townsend, Trans. Amer. Ent. Soc. 22:44.
1895. *Volucella isabellina* Townsend, Proc. Calif. Acad. Sci. 4:614.
1905. *Volucella isabellina*, Aldrich, Cat. Dipt. 379.

Mexico: N. Sonora.

Volucella johnsoni (Curran)

1925. *Phalacromyia johnsoni* Curran, Ann. Mag. Nat. Hist. (9) 16:249.

Venezuela.

Volucella kahli Hull

1938. *Volucella kahli* Hull, Ann. Carnegie Museum 27:122, pl. 8, fig. 5.

Fr. Guiana: Mana River.

Volucella lacticoerulea Hull

1944. *Volucella lacticoerulea* Hull, Bul. Brook. Ent. Soc. 39:35.

Brazil: São Paulo.

Volucella lanei Curran

1936. *Volucella lanei* Curran, Amer. Mus. Novit. 882:11.

Brazil: São Paulo (Amer. Museum).

Volucella lata Wiedemann

1830. *Volucella lata* Wiedemann, Ausser. Zweif. Ins. 3:195.
1886. *Volucella* (*Temnocera*) *megacephala* Williston, U. S. Nat. Mus. Bul. 31:146 (not Loew).
1891. *Volucella lata* Williston, Biol. Centr. Amer., Dipt. 3:45.
1892. *Volucella lata* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:46.
1905. *Volucella lata* Aldrich, Cat. Dipt. 379.

Mexico: Temax, Atoyac.

Volucella latevittata Curran

1939. *Volucella latevittata* Curran, Amer. Mus. Novit. 1028:16.

Colombia; Peru; Bolivia: Mapiri (Amer. Museum).

Volucella liriope Hull

1949. *Volucella liriope* Hull, Psyche 56:28.
Brazil: Nova Teutônia.

Volucella lucilia Hull

1950. *Volucella lucilia* Hull, Bul. Brook. Ent. Soc. 45:65.
Peru: Chanchamayo.

Volucella lugens Wiedemann

1830. *Volucella lugens* Wiedemann, Ausser. Zweif. Ins. 2:206.
1905. *Volucella lugens* Aldrich, Cat. Dipt. 379.
1926. *Volucella lugens* Curran, Ann. Ent. Soc. Amer. 19:65.
Brazil; Guatemala: Lanquin.

Volucella lumina Hull

1937. *Volucella lumina* Hull, Jour. Wash. Acad. Sci. 27:168, fig. 8.
Bolivia: Ramupasa.

Volucella lunulifera Hull

1937. *Volucella lunulifera* Hull, Jour. Wash. Acad. Sci. 27:167.
Peru: Iquitos.

Volucella macquarti Curran

1926. *Volucella macquarti* Curran, Ann. Ent. Soc. Amer. 19:60.
1934. *Volucella macquarti* Curran, Bul. Amer. Mus. Nat. Hist| 66:387
Honduras; Mexico; Trinidad; Br. Guiana: Kartabo.

Volucella macrocephala (Giglio-Tos)

1886. *Temnocera megacephala* Williston (not Loew), U. S. Nat. Mus. Bul. 31:146.
1891. *Volucella lata* Williston (not Wiedemann), Biol. Centr. Amer. Dipt. 3:45.
1892. *Camerania macrocephala* Giglio-Tos, Mem. R. Accad. Sci., Torino 43:45.
1905. *Volucella macrocephala* Aldrich, Cat. Dipt. 379.
Mexico: Vera Cruz, Yucatan.

Volucella macula Wiedemann

1830. *Volucella macula* Wiedemann, Ausser. Zweif. Ins. 2:200.
1842. *Volucella macula* Macquart, Dipt. Exot. 2, 2:24, tab. 4, fig. 1.
1888. *Volucella macula* Williston, Trans. Amer. Ent. Soc. 15:272.
1905. *Volucella macula* Aldrich, Cat. Dipt. 379.
1914. *Volucella macula* Hine, Ohio Nat. 14:339.
1926. *Volucella macula* Curran, Ann. Ent. Soc. Amer. 19:62.

1934. *Volucella macula* Curran, Bul. Amer. Mus. Nat. Hist. 66:387.
Mexico: Teapa; Brazil: Chapada; Br. Buiana: Bartica.

Volucella maculoides Curran

1939. *Volucella maculoides* Curran, Amer. Mus. Novit. 1028:10.
Brazil: Chapada (Amer. Museum).

Volucella marceli Curran

1939. *Volucella marceli* Curran, Amer. Mus. Novit. 1028:7.
Brazil: São Paulo (Amer. Museum).

Volucella megacephala (Loew)

1863. *Temnocera megacephala* Loew, Centur. 5:57.
1878. *Temnocera megacephala* Osten Sacken, Cat. Dipt. 130.
1895. *Volucella megacephala* Townsend, Proc. Calif. Acad. Sci. 4:615.
1905. *Volucella megacephala* Aldrich, Cat. Dipt. 379.
Mexico.

Volucella mellea Jaennicke

1867. *Volucella mellea* Jaennicke, Abh. Senck. Ges. 5:396.
1891. *Volucella mellea* Williston, Biol. Centr. Amer., Dipt. 3:49.
1892. *Volucella mellea* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:58.
1895. *Volucella mellea* Townsend, Trans. Amer. Ent. Soc. 22:44.
1905. *Volucella mellea* Aldrich, Cat. Dipt. 379.
Mexico: Jaral, Mexico City.

Volucella meretricias Williston

1888. *Volucella meretricias* Williston, Trans. Amer. Ent. Soc. 15:272.
Brazil: Chapada, Rio de Janeiro; Argentina: Misiones (Iguazu).

Volucella mexicana Macquart

?1829. *Volucella violacea* Say, Jour. Acad. Nat. Sci. Phil. 6:166.
1842. *Volucella mexicana* Macquart, Dipt. Exot. 2, 2:25, tab. 5, fig. 3.
1849. *Volucella metallifera* Walker, Cat. Dipt. Ins. 3:636.
?1859. *Volucella violacea* Say, Compl. Works 2:360.
1867. *Volucella maximiliani* Jaennicke, Abh. Senck. Ges. 5:87.
1868. *Volucella maximiliani* Schiner, Reise Novara, Dipt. 356.
1878. *Volucella mexicana* Osten Sacken, Bul. U. S. Geol. & Geogr. Surv. 3:128.
1886. *Volucella esuriens mexicana* Williston, U. S. Nat. Mus. Bul. 31:137, tab. 6, figs. 5, 5a.
1892. *Volucella mexicana* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:47.
1897. *Volucella mexicana* Townsend, Jour. N. Y. Ent. Soc. 5:174.

1905. *Volucella esuriens* (in part) Aldrich, Cat. Dipt. 378 — (see also *esuriens, dispar, nigra*).

Mexico.

Volucella minima Giglio-Tos

1892. *Volucella minima* Giglio-Tos, Boll. Mus. Zool. Torino 7:3.
1892. *Volucella minima* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:53.
1905. *Volucella minima* Aldrich, Cat. Dipt. 379.

Mexico: Orizaba (Torino).

Volucella missionera Arribálzaga

1891. *Volucella missionera* Arribálzaga, An. Soc. Cient. Argentina 32:183.

Uruguay.

Volucella mocana Curran

1936. *Volucella mocana* Curran, Amer. Mus. Novit. 882:11.

Guatemala: Moca Guatalon, Pochuta.

Volucella morpho Curran

1939. *Volucella morpho* Curran, Amer. Mus. Novit. 1028:2.

Brazil: Pernambuco (Amer. Museum).

Volucella mus Williston

1888. *Volucella mus* Williston, Trans. Amer. Ent. Soc. 15:274.
1921. *Volucella mus* Sack, Archiv Naturg. 87:137, fig.

Brazil: Chapada; Argentina: Tucumán.

Volucella musana Curran

1930. *Volucella musana* Curran, Amer. Mus. Novit. 413:16.

Canal Zone: Barro Colorado Island.

Volucella muscaria (Thomsen)

1869. *Haurotricha muscaria* Thomsen, Engenies Resa Dipt. 493.
1883. *Phalacromyia argentina* Bigot, Ann. Soc. Ent. France: 83.
1886. *Phalacromyia argentina* Röder, Stett. Ent. Zeit. 47:263.
1892. *Phalacromyia muscaria* Arribálzaga, An. Soc. Cient. Argentina 34:242.
1892. *Phalacromyia muscaria* Röder, Dipt. gesam. in Sud.-Amer. V. A. Stubel, 8 (var.).

Argentina; Colombia.

Volucella musicana Curran

1888. *Volucella punctifera?* Williston (not Bigot), Trans. Amer. Ent. Soc. 15:275.

Brazil: Chapada.

Volucella musta Williston

1888. *Volucella musta* Williston, Trans. Amer. Ent. Soc. 15:274.
1934. *Volucella musta* Curran, Bul. Amer. Mus. Nat. Hist. 66:386.

Br. Guiana: Kartabo.

Volucella mustoides Curran

1927. *Volucella mustoides* Curran, Bul. Brook Ent. Soc. 22:84.

Honduras.

Volucella nautlana Townsend

1898. *Volucella nautlana* Townsend, Ann. Mag. Nat. Hist. 20:28.
1905. *Volucella nautlana* Aldrich, Cat. Dipt. 380.

Mexico: Vera Cruz.

Volucella nigra Greene

1923. *Volucella nigra* Greene, Proc. Ent. Soc. Wash. 25:165.
1951. *Volucella nigra* Weems, Florida Ent. 34:109.

Florida.

Volucella nigrifacies Bigot

1875. *Volucella nigrifacies* Bigot, Ann. Soc. Ent. France: 479.
1905. *Volucella nigrifacies* Aldrich, Cat. Dipt. 380.

Mexico.

Volucella nigrifrons (Hine)

1914. *Phalacromyia nigrifrons* Hine, Ohio Nat. 14:340.
1934. *Volucella nigrifrons* Curran, Bul. Amer. Mus. Nat. Hist. 66:386.

Br. Guiana: Bartica.

Volucella nigripes (Bigot)

1857. *Phalacromyia nigripes* Bigot, Ann. Soc. Ent. France: 296, fig.
1865. *Phalacromyia nigripes* Philippi, Verh. Zool.-Bot. Ges. Wien 15:734.
1868. *Phalacromyia nigripes* Schiner, Reise Novara, Dipt. 354.
1883. *Phalacromyia nigripes* Bigot, Ann. Soc. Ent. France: 82.

Chile.

Volucella nigropoda Hull

1949. *Volucella nigropoda* Hull, Psyche 56:35.

Peru: Pucallpa.

Volucella nigroviridis Hull

1949. *Volucella nigroviridis* Hull, Ent. News 60:37.

Peru: Pucallpa.

Volucella nitidigaster Hull

1937. *Volucella nitidigaster* Hull, Jour. Wash. Acad. Sci. 27:165.

Argentina: Villa Nogues (Prov. Tucumán).

Volucella notata Bigot

1874. *Volucella notata* Bigot, Ann. Soc. Ent. France 6:475.
1882. *Volucella notata* Wulp, Tijd. v. Ent. 25:122.
1883. *Volucella notata* Bigot, Ann. Soc. Ent. France 31:65.
1891. *Volucella notata* Arribálzaga, An. Soc. Cient. Argentina 32:131.

Uruguay: Montevideo.

Volucella obliquicornis Curran

1939. *Volucella obliquicornis* Curran, Amer. Mus. Novit. 1028:12.

Br. Guiana: Tumatumari, Kamakusa (Amer. Museum).

Volucella obscurior Curran

1939. *Volucella obscurior* Curran, Amer. Mus. Novit. 1028:5.

Brazil: Nova Teutônia (Amer. Museum); Argentina: Tucumán, La Rioja.

Volucella obscuripennis Arribálzaga

1891. *Volucella obscuripennis* Arribálzaga, An. Soc. Cient. Argentina 32:130.

Argentina.

Volucella oestroides Hull

1943. *Volucella oestroides* Hull, Ann. Mag. Nat. Hist. (11) 10:23.

Brazil: Rio de Janeiro.

Volucella omochroma Giglio-Tos

1892. *Volucella omochroma* Giglio-Tos, Boll. Mus. Zool. Torino 7:2.
1892. *Volucella omochroma* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:47.

Mexico.

Volucella opalicolor Hull

1943. *Volucella opalicolor* Hull, Ann. Mag. Nat. Hist. (11) 10:36.

Bolivia: Prov. Sara, Santa Cruz de la Sierra.

Volucella opalina Townsend

1897. *Volucella opalina* Townsend, Ann. Mag. Nat. Hist. 20:29. (var. *splendens*).
1905. *Volucella opalina* Aldrich, Cat. Dipt. 380.

Mexico: Vera Cruz.

Volucella opeostoma Hull

1949. *Volucella opeostoma* Hull, Ent. News 60:32.

Panama: Bambito, Volcan, Chiriqui.

Volucella opinator Williston

1891. *Volucella opinator* Williston, Biol. Centr. Amer., Dipt. 3:51, tab. 1, fig. 14.

Mexico: Atoyac.

Volucella ornata Williston

1891. *Volucella ornata* Williston, Biol. Centr. Amer., Dipt. 3:49.
1892. *Volucella hispida* Giglio-Tos, Boll. Mus. Zool. Torino 7:4.
1892. *Volucella ornata* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:61.
1905. *Volucella ornata* Aldrich, Cat. Dipt. 380.

Mexico: Jalapa.

Volucella osburni Hull

1942. *Volucella osburni* Hull, Psyche 42:92.

Paraguay: Villarica; Argentina: Santa Fé, Tucumán.

Volucella pachecoi Curran

1939. *Volucella pachecoi* Curran, Amer. Mus. Novit. 1028:13.

Guatemala (Amer. Museum).

Volucella pallens Wiedemann

1830. *Volucella pallens* Wiedemann, Ausser. Zweif. Ins. 2:204.
1848. *Volucella testacea* Rondani (not Wulp), Ins. Ditt. Brazil 1.
1861. *Volucella sexpunctata* Loew, Wien Ent. Monatschr. 5:38.
1865. *Volucella sexpunctata* Loew, Berl. Ent. Zeitschr. 6:151.
1883. *Volucella testacea* Bigot (not Wulp), Ann. Soc. Ent. France: 78.
1886. *Volucella sexpunctata* Williston, U. S. Nat. Mus. Bul. 31:141, tab. 6, fig. 2.
1888. *Volucella pallens* Williston, Trans. Amer. Ent. Soc. 15:275.

1891. *Volucella testacea* Arribálzaga (not Wulp), An. Soc. Cient. Argentina 32:132.
1891. *Volucella pallens* Williston, Biol. Centr. Amer., Dipt. 3:53.
1892. *Volucella pallens* Williston, Ent. News 3:146.
1892. *Volucella pallens* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:57.
1905. *Volucella pallens* Aldrich, Cat. Dipt. 380.
1921. *Volucella pallens* Sack, Archiv. Naturg. 87:140, fig.
1926. *Volucella pallens* Curran, Ann. Ent. Soc. Amer. 19:56.
1927. *Volucella pallens* Curran, App., Rec. & Descr. Dipt., Jamaica: 22.

Mexico; W. Indies; Cuba; Jamaica; Guatemala; Brazil; Colombia.

Volucella pallidithorax Hull

1941. *Volucella pallidithorax* Hull, Psyche 48:156, pl. 1, fig. 8.

Honduras: Rosario Mires.

Volucella palmyra Hull

1949. *Volucella palmyra* Hull, Psyche 56:33.

Brazil: Nova Teutônia.

Volucella panamena Curran

1939. *Volucella panamena* Curran, Amer. Mus. Novit. 1028:12.

Peru: Middle Rio Ucayali; Canal Zone: Barro Colorado Island.

Volucella panamensis Curran

1930. *Volucella panamensis* Curran, Amer. Mus. Novit. 413:17.

Canal Zone: Barro Colorado Island.

Volucella parana Hull

1942. *Volucella parana* Hull, Psyche 49:23.

Brazil: Paraná.

Volucella parina Fluke

1951. *Volucella parina* Fluke, Amer. Mus. Novit. 1503:25, figs. 14, 61.

Chile: Arica, Parinacota.

Volucella perlata Hine

1914. *Volucella perlata* Hine, Ohio Nat. 14:339.

Guatemala.

Volucella persimilis Williston

1888. *Volucella persimilis* Williston, Trans. Amer. Ent. Soc. 15:273.
1939. *Volucella persimilis* Curran, Amer. Mus. Novit. 1028:9.

Brazil: Destares, Chapada, Rio de Janeiro.

Volucella pertinax Hull

1950. *Volucella pertinax* Hull, Bul. Brook. Ent. Soc. 45:67.

Peru: Chanchamayo.

Volucella pica (Schiner)

1868. *Phalacromyia pica* Schiner, Reise Novara, Dipt. 355.
?1891. *Phalacromyia pica* Williston, Biol. Centr. Amer., Dipt. 3:41.
1905. *Phalacromyia pica* Aldrich, Cat. Dipt. 382.

Colombia; Mexico: Misantla.

Volucella picta Wiedemann

1830. *Volucella picta* Wiedemann, Ausser. Zweif. Ins. 2:201.
1848. *Volucella picta* Rondani, Studi Ent. 1:65.
1857. *Volucella picta* Bigot, in R. de la Sagra, Hist. fis. polit. Cuba, 802.
1868. *Volucella picta* Schiner, Reise Novara, Dipt. 358.
1875. *Volucella pulchripes* Bigot, Ann. Soc. Ent. France: 480.
1888. *Volucella picta* Williston, Trans. Amer. Ent. Soc. 15:275.
1891. *Volucella picta* Williston, Biol. Centr. Amer., Dipt. 3:47.
1905. *Volucella picta* Aldrich, Cat. Dipt. 380.
1914. *Volucella picta* Hine, Ohio Nat. 14:339.
1926. *Volucella picta* Curran, Ann. Ent. Soc. Amer. 19:62.

Brazil: Chapada; Cuba; Mexico: Temax, Omilteme, Orizaba; Argentina: Tucumán (Villa Nouges).

Volucella pictoides Hull

1941. *Volucella pictoides* Hull, Ent. News 52:280.

Cuba: Havana.

Volucella picturata Arribálzaga

1891. *Volucella picturata* Arribálzaga, An. Soc. Cient. Argentina 34:135.

Argentina.

Volucella pinkusi Curran

1938. *Volucella pinkusi* Curran, Amer. Mus. Novit. 975:1.

Trinidad: St. Anne.

Volucella placiva Hull

1943. *Volucella placiva* Hull, Ann. Mag. Nat. Hist. (11) 10:30.

Ecuador: Santa Inez.

Volucella plaumanni Curran

1939. *Volucella plaumanni* Curran, Amer. Mus. Novit. 1028:4.

Brazil: Nova Teutônia (Amer. Museum); Argentina; Salta (Urundel).

Volucella postica Say

1829. *Volucella postica* Say, J. Acad. Phil. 6:166.
1859. *Volucella postica* Say, Compl. Wr. 2:360.
1875. *Volucella castanea?* Bigot, Ann. Soc. Ent. France: 476.
1892. *Volucella postica* and var. *pallidior* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:49 (146).
1905. *Volucella postica* Aldrich, Cat. Dipt. 380.

Mexico.

Volucella prescutellaris Williston

1888. *Volucella prescutellaris* Williston, Trans. Amer. Ent. Soc. 15:273.

Brazil: Chapada; Argentina: Misiones.

Volucella procteri Curran

1939. *Volucella procteri* Curran, Amer. Mus. Novit. 1028:9.

Brazil: Nova Teutônia (Amer. Museum).

Volucella pubescens (Loew)

1861. *Temnocera pubescens* Loew, Wien. Ent. Monatschr. 5:38.
1865. *Temnocera pubescens* Loew, Centur. 6:35.
1886. *Volucella* (*Temnocera*) *pubescens* Williston, U. S. Nat. Mus. Bul. 31:148.
1905. *Volucella pubescens* Aldrich, Cat. Dipt. 380.

Cuba.

Volucella pulchra (Williston)

1891. *Phalacromyia pulchra* Williston, Biol. Centr. Amer.. Dipt. 3:41.
1905. *Phalacromyia pulchra* Aldrich, Cat. Dipt. 382.

Costa Rica: Rio Sucio.

Volucella pulchrapuella Hull

1943. *Volucella pulchrapuella* Hull, Ann. Mag. Nat. Hist. (11) 10:33.

Jamaica.

Volucella punctifera Bigot

1875. *Volucella punctifera* Bigot, Ann. Soc. Ent. France: 475 (= *pallens* Wiedemann?).
1888. *Volucella punctifera?* Williston, Trans. Amer. Ent. Soc. 15:275.
1891. *Volucella punctifera* Arribálzaga, An. Soc. Cient. Argentina 32:133.

Argentina.

Volucella punctigena Hull

1937. *Volucella punctigena* Hull, Jour. Wash. Acad. Sci. 27:175, fig. 6.

Guatemala: Siquinola.

Volucella purpurascens (Loew)

1869. *Temnocera purpurascens* Loew, Centur. 8:52.
1886. *Volucella* (*Temnocera*) *purpurascens* Williston, U. S. Nat. Mus. Bul. 31:148.
1905. *Volucella purpurascens* Aldrich, Cat. Dipt. 380.

Haiti.

Volucella purpurea Walker

1849. *Volucella purpurea* Walker, List, etc. 3:637.
1883. *Volucella purpurea* Bigot, Ann. Soc. Ent. France: 68.
1921. *Volucella purpurea* Sack, Archiv. Naturg. 87:140, fig.

Brazil.

Volucella purpurifera Bigot

1875. *Volucella purpurifera* Bigot, Ann. Soc. Ent. France: 477.
1875. *Volucella tricincta* Bigot, Ann. Soc. Ent. France: 477.
1891. *Volucella purpurifera* Williston, Biol. Centr. Amer., Dipt. 3:54.

Mexico: Oaxaca.

Volucella pusilla Macquart

1842. *Volucella pusilla* Macquart, Dipt. Exot. 2, 2:21, tab. 5, fig. 1.
1886. *Volucella pusilla* Williston, U. S. Nat. Mus. Bul. 31:144, pl. 6, figs. 3, 3a.

Cuba.

Volucella quadrata Williston

1891. *Volucella quadrata* Williston, Biol. Centr. Amer., Dipt. 3:46, tab. 1, fig. 12.
1905. *Volucella quadrata* Aldrich, Cat. Dipt. 381.

Mexico: Chilpancingo.

Volucella rafaelana Townsend

1897. *Volucella rafaelana* Townsend, Ann. Mag. Nat. Hist. 20:28.

Mexico.

Volucella recta? (Wulp)

1882. *Temnocera recta* Wulp, Tijd. v. Ent. 25:125.

1892. *Temnocera recta* Arribálzaga, An. Soc. Cient. Argentina 34:189.
1951. *Volucella recta?* Fluke, Amer. Mus. Novit. 1503: 7, figs. 1, 49.

Argentina: Salta, Villa Nougues, Tafi Viejo, Tucumán, El Morenillo.

Volucella rhea Hull

1950. *Volucella rhea* Hull, Rev. de Ent. 21:232.

Peru: Matucana.

Volucella roraima Curran

1939. *Volucella roraima* Curran, Amer. Mus. Novit. 1028:3.

Brazil: Mt. Roraima (Amer. Museum).

Volucella rosa Curran

1939. *Volucella rosa* Curran, Amer. Mus. Novit. 1028:7.

Peru: Middle Rio Ucayali (Amer. Museum).

Volucella rospigliosii Brèthes

1920. *Volucella rospigliosii* Brèthes, An. Soc. Cient. Argentina 89:31.

Peru.

Volucella ruralis Curran

1939. *Volucella ruralis* Curran, Amer. Mus. Novit. 1028:2.

Brazil: Nova Teutônia (Amer. Museum).

Volucella salti Curran

1930. *Volucella salti* Curran, Amer. Mus. Novit. 413:12.

Colombia: Rio Frio, Magdalena.

Volucella saphirina Bigot

1883. *Volucella saphirina* Bigot, Ann. Soc. Ent. France: 85.
1933. *Volucella sapphirina* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:168.

Chile.

Volucella sappho Hull

1949. *Volucella sappho* Hull, Ent. News 60:34.

Panama: Colorado Island, Summit.

Volucella scintillans Hull

1949. *Volucella scintillans* Hull, Psyche 56:39.

Peru: Pucallpa.

Volucella scutellata Macquart

1842. *Volucella scutellata* Macquart, Dipt. Exot. 2, 2:25.
1844. *Temnocera andicola* Bigot, Ann. Soc. Ent. France: 548.
1852. *Volucella scutellata* Blanchard, Gay's Hist. Polit. Chile, Zool. 7:405, fig.
1865. *Volucella scutellata* Philippi, Verh. Zool.-Bot. Ges. Wien 15:139.
1868. *Temnocera scutellata* Schiner, Reise Novara, Dipt. 359.
1888. *Volucella scutellata* Williston, Trans. Amer. Ent. Soc. 15:271.
1892. *Volucella scutellata* Arribálzaga, An. Soc. Cient. Argentina 34:189.
1914. *Volucella scutellata* Hine, Ohio Nat. 14:340.
1933. *Volucella scutellata* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:169.
1951. *Volucella scutellata* Fluke, Amer. Mus. Novit. 1503:4, figs. 18, 21, 36, 47.

Brazil: Chapada; Peru: Matucana; Chile: Arica, Putre, Santiago, Valparaiso.

Volucella selecta Curran

1939. *Volucella selecta* Curran, Amer. Mus. Novit. 1028:15.

Brazil: Nova Teutônia (Amer. Museum).

Volucella sepia Hull

1943. *Volucella sepia* Hull, Ann. Mag. Nat. Hist. (11) 10:25.

Central America.

Volucella spectralis Hull

1942. *Volucella spectralis* Hull, Psyche 49:21.

Brazil.

Volucella spinigera Wiedemann

1830. *Volucella spinigera* Wiedemann, Ausser. Zweif. Ins. 2:197.
1842. *Temnocera spinigera* Macquart, Dipt. Exot. 2,2:27, fig.
1849. *Volucella spinigera* Walker, List, etc. 3:636.
1882. *Atemnocera spinigera* Bigot, Bul. Soc. Ent. France 2.
1883. *Temnocera fulvicornis* Bigot, Ann. Soc. Ent. France: 547.
1892. *Temnocera spinigera* Arribálzaga, An. Soc. Cient. Argentina 34:188.
1926. *Volucella spinigera* Curran, Ann. Ent. Soc. Amer. 19:59.
1933. *Volucella spinigera* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:170.
1951. *Volucella spinigera* Fluke, Amer. Mus. Novit. 1503:18, figs. 11, 20, 31, 42, 58.

Argentina: Tucumán, Buenos Aires, Santa Fé, Salta, Pte. Perón, Formosa, Córdoba; Uruguay: Montevideo.

Volucella spinithorax (Arribálzaga)

1892. *Temnocera spinithorax* Arribálzaga, An. Soc. Cient. Argentina 34:190.
1921. *Temnocera spinithorax* Sack, Archiv. Naturg. 87:141.
1951. *Volucella spinithorax* Fluke, Amer. Mus. Novit. 1503:20, figs. 33, 59.

Brazil: São Paulo, Nova Teutônia, Paraná; Paraguay: Sapucay.

Volucella splendens Hull

1949. *Volucella splendens* Hull, Psyche 56:26.
1951. *Volucella splendens* Fluke, Amer. Mus. Novit. 1503:27.

Brazil: Nova Teutônia.

Volucella squamigera Curran

1925. *Volucella squamigera* Curran, Ann. Mag. Nat. Hist. (9) 16:348.

Peru.

Volucella stigmata Hull

1949. *Volucella stigmata* Hull, Psyche 56:37.

Peru: Pucallpa.

Volucella sublata Fluke

1950. *Volucella sublata* Fluke, Acta Zool. Lill. 9:451, figs.

Chile: Arica (Univ. Chile).

Volucella sultzi Curran

1939. *Volucella sultzi* Curran, Amer. Mus. Novit. 1028:7.

Brazil: Alto da Serra (Amer. Museum).

Volucella tatei Curran

1930. *Volucella tatei* Curran, Amer. Mus. Novit. 413:21.

Venezuela: Mt. Duida.

Volucella tau Bigot

1883. *Volucella tau* Bigot, Ann. Soc. Ent. France: 84.
1886. *Volucella tau* Williston, U. S. Nat. Mus. Bul. 31:143, pl. 6, fig. 13.
1905. *Volucella tau* Aldrich, Cat. Dipt. 381.

Mexico.

Volucella teffera Curran

1939. *Volucella teffera* Curran, Amer. Mus. Novit. 1028:9.

Brazil: Teffe (Amer. Museum).

Volucella testacea Wulp

1891. *Volucella testacea* Wulp, Tijd. v. Ent. 34:203 (= *pallens* Wiedemann?).
1905. *Volucella testacea* Aldrich, Cat. Dipt. 381.

Venezuela: Caracao.

Volucella tibialis Macquart

1845. *Volucella tibialis* Macquart, Dipt. Exot. 1 Suppl.: 123.
1905. *Volucella tibialis* Aldrich, Cat. Dipt. 381.

Yucatan.

Volucella tricincta Bigot

1875. *Volucella tricincta* Bigot, Ann. Soc. Ent. France: 477.

Mexico; Argentina: Tucumán, Salta, Misiones.

Volucella trigona Giglio-Tos

1892. *Volucella trigona* Giglio-Tos, Boll. Mus. Zool. Torino 7:3.
1892. *Volucella trigona* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:52.
1907. *Volucella trigona* Aldrich, Jour. N. Y. Ent. Soc. 15:5.

Mexico.

Volucella tripunctata Hull

1949. *Volucella tripunctata* Hull, Psyche 56:31.

Brazil: Nova Teutônia.

Volucella tristis Bigot

1875. *Volucella tristis* Bigot, Ann. Soc. Ent. France: 482.
1883. *Phalacromyia melanorhina* Bigot, Ann. Soc. Ent. France: 81 and 86.
1892. *Volucella tristis* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:54.
1905. *Volucella tristis* Aldrich, Cat. Dipt. 381.

Mexico.

Volucella tumicephala Hull

1943. *Volucella tumicephala* Hull, Ann. Mag. Nat. Hist. (11) 10:35.
1951. *Volucella tumicephala* Fluke, Amer. Mus. Novit. 1503:27.

Peru.

Volucella tympanitis (Fabricius)

1805. *Syrphus tympanitis* Fabricius, Syst. Antl.: 226.
1830. *Volucella tympanitis* (*ardua*) Wiedemann, Ausser. Zweif. Ins. 2:200 (204).

1888. *Volucella tympanitis* Williston, Trans. Amer. Ent. Soc. 15:275.
1891. *Volucella tympanitis* Williston, Biol. Centr. Amer., Dipt. 3:52.
1905. *Volucella tympanitis* Aldrich, Cat. Dipt. 381.
1914. *Volucella timpanitis* Hine, Ohio Nat. 14:340.
1926. *Volucella tympanitis* Curran, Ann. Ent. Soc. Amer. 19:56.
1934. *Volucella tympanitis* Curran, Bul. Amer. Mus. Nat. Hist. 66:386.

Panama; Brazil; Mexico: Teapa, Atoyac.

Volucella ulrica Hull

1950. *Volucella ulrica* Hull, Bul. Brook Ent. Soc. 45:68.

Peru: Chanchamayo.

Volucella unicolor Curran

1925. *Volucella unicolor* Curran, Ann. Mag. Nat. Hist. (9) 16:347.

Venezuela.

Volucella unilecta (Walker)

1858. *Temnocera unilecta* Walker, Trans. Ent. Soc. (N. S.) 5:292.
1905. *Volucella unilecta* Aldrich, Cat. Dipt. 381.

Mexico.

Volucella unipunctata Curran

1926. *Volucella unipunctata* Curran, Ann. Ent. Soc. Amer. 19:63.

West Indies: Desecheot Island; Puerto Rico: Ensenada.

Volucella vacua (Fabricius)

1775. *Syrphus vacua* Fabricius, Syst. Ent. 4:763.
1794. *Syrphus vacua* Fabricius, Ent. Syst. 4:281.
1805. *Syrphus vacua* Fabricius, Syst. Antl.: 227.
1830. *Volucella vacua* Wiedemann, Ausser. Zweif. Ins. 2:202.
1895. *Volucella vacua* Townsend, Trans. Amer. Ent. Soc. 22:46.
1905. *Volucella vacua* Aldrich, Cat. Dipt. 381.

West Indies; South America; Jamaica.

Volucella vaga Wiedemann

1830. *Volucella vaga* Wiedemann, Ausser. Zweif. Ins. 2:205.
1862. *Phalacromyia vaga* Schiner, Reise Novara, Dipt. 355.
1875. *Volucella viridula* Bigot (not Walker), Ann. Soc. Ent. France: 481.
1883. *Phalacromyia vaga* Bigot, Ann. Soc. Ent. France: 82.
1890. *Volucella vaga* Mik, Wien. Ent. Zeit. 19:296.
1905. *Volucella vaga* Aldrich, Cat. Dipt. 382.
1926. *Volucella vaga* Curran, Ann. Ent. Soc. Amer. 19:57.

1930. *Volucella vaga* Curran, Amer. Mus. Novit. 413:14.
1934. *Volucella vaga* Curran, Bul. Amer. Mus. Nat. Hist. 66:386.
Brazil; Chapada; Br. Guiana: Kartabo.

Volucella vagoides Curran

1927. *Volucella vagoides* Curran, Bl. Brook. Ent. Soc. 22:86.
Costa Rica.

Volucella valeria Hull

1944. *Volucella valeria* Hull, Rev. de Ent. 15:48.
Peru: El Campamiento.

Volucella vampyra Hull

1942. *Volucella vampyra* Hull, Proc. New Eng. Zool. Club 19:96.
Brazil: Paranaguá, Paraná.

Volucella varians Bigot

1875. *Volucella varians* Bigot, Ann. Soc. Ent. France: 481.
Mexico.

Volucella varichaeta (Curran)

1925. *Phalacromyia varichaeta* Curran, Ann. Mag. Nat. Hist. (9) 16:250.
Peru.

Volucella variegata Bigot

1875. *Volucella variegata* Bigot, Ann. Soc. Ent. France: 478.
1891. *Volucella comastes* Williston, Biol. Centr. Amer., Dipt. 3:52.
1892. *Volucella variegata* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:51.
1905. *Volucella variegata* Aldrich, Cat. Dipt. 381.
1939. *Volucella variegata* Curran, Amer. Mus. Novit. 1028:8.
Mexico; Guatemala.

Volucella ventana Fluke

1951. *Volucella ventana* Fluke, Amer. Mus. Novit. 1503:9, figs. 4, 23, 37, 50.
Argentina: Cerro de la Ventana, Tornquist, Buenos Aires.

Volucella vera Hull

1942. *Volucella vera* Hull, Proc. New Eng. Zool. Club 19:95.
Honduras: Lancetilla.

Volucella verdigaster Hull

1943. *Volucella verdigaster* Hull, Jour. Wash. Acad. Sci. 33:41.

Colombia (U. S. Nat. Museum).

Volucella vesiculosa (Fabricius)

1805. *Syrphus vesiculosus* Fabricius, Syst. Antl.: 226.
1830. *Volucella vesiculosa* Wiedemann, Ausser. Zweif. Ins. 2:201.
1847. *Volucella vesiculosa* Macquart, Dipt. Exot. 3 Suppl.: 39, tab. 4, fig. 3.
1886. *Volucella vesiculosa* Williston, U. S. Nat. Mus. Bul. 31:141, pl. 6, fig. 1, 1a.
1905. *Volucella vesiculosa* Aldrich, Cat. Dipt. 381.

South America.

Volucella vicina (Bigot)

1883. *Phalacromyia vicina* Bigot, Ann. Soc. Ent. France: 86.
1905. *Phalacromyia vicina* Aldrich, Cat. Dipt. 382.

Mexico.

Volucella vierecki (Curran)

1925. *Phalacromyia vierecki* Curran, Ann. Mag. Nat. Hist. (9) 16:250.

Colombia.

Volucella villarica Fluke

1951. *Volucella villarica* Fluke, Amer. Mus. Novit. 1503:23, figs. 12, 62.

Paraguay: Villarica; Brazil: São Paulo, Piedade, S. Roque.

Volucella viola Hull

1943. *Volucella viola* Hull, Rev. de Ent. 14:514.

Brazil: São Paulo (Hull Coll).

Volucella virescens (Williston)

1891. *Phalacromyia virescens* Williston, Biol. Centr. Amer., Dipt. 3:42.
1905. *Phalacromyia virescens* Aldrich, Cat. Dipt. 382.

Guatemala: El Tumbador.

Volucella viridana Townsend

1897. *Volucella viridana* Townsend, Ann. Mag. Nat. Hist. 20:30.
1905. *Volucella viridana* Aldrich, Cat. Dipt. 381.

Mexico: Vera Cruz.

Volucella viridigaster Hull

1943. *Volucella viridigaster* Hull, Jour. Wash. Acad. Sci. 33:41.

Ecuador (U. S. Nat. Museum).

Volucella viridis Williston

1888. *Volucella viridis* Williston, Trans. Amer. Ent. Soc. 15:275.

Brazil: Chapada.

Volucella viridula (Walker)

1860. *Temnocera viridula* Walker, Trans. Ent. Soc. London 5:292.
1891. *Volucella vaga* Williston (not Wiedemann), Biol. Centr. Amer., Dipt. 3:42.
1893. *Volucella vaga* Giglio-Tos (not Wiedemann), Mem. R. Accad. Sci. Torino 43:152.
1905. *Volucella viridula* Aldrich, Cat. Dipt. 381.

Mexico.

Volucella virtuosa Hull

1942. *Volucella virtuosa* Hull, Proc. New Eng. Zool. Club 19:95.

Paraguay: Villarica.

Volucella vitrea Hull

1949. *Volucella vitrea* Hull, Ent. News 60:36.

Peru: Pucallpa.

Volucella vitripennis Curran

1934. *Volucella vitripennis* Curran, Bul. Amer. Mus. Nat. Hist. 66:387.

Br. Guiana: Kartabo.

Volucella vittifacia Hull

1943. *Volucella vittifacia* Hull, Ann. Mag. Nat. Hist. (11) 10:18.

Brazil: Amazon.

Volucella volucelloides (Bigot)

1884. *Glaurotricha? volucelloides* Bigot, Ann. Soc. Ent. France: 548.
1886. *Glaurotricha volucelloides* Williston, U. S. Nat. Mus. Bul. 31:301.
1905. *Phalacromyia volucelloides* Aldrich, Cat. Dipt. 382.

Mexico.

Volucella volucris Giglio-Tos

1892. *Volucella volucris* Giglio-Tos, Boll. Mus. Zool. Torino 7:4.
1892. *Volucella volucris* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:61.
1905. *Volucella volucris* Aldrich, Cat. Dipt. 382.

Mexico: Orizaba.

Volucella vulcan Hull

1942. *Volucella vulcan* Hull, Proc. New Eng. Zool. Club 19:93.
Brazil: Joinville.

Volucella vulta Fluke

1951. *Volucella vulta* Fluke, Amer. Mus. Novit. 1503:6, figs. 17, 22, 39, 53.
Argentina: Tucumán, Cafayete, Salta; Peru: Matucana.

Volucella watsoni Curran

1930. *Volucella watsoni* Curran, Amer. Mus. Novit. 416:3.
Haiti: Port-au-Prince, La Moriniere, Pont Beudet.

Volucella willinki Fluke

1951. *Volucella willinki* Fluke, Amer. Mus. Novit. 1503:10, figs. 2, 24, 54.
Argentina: Tucumán (Tafi del Valle, El Molle, Siambón), Buenos Aires.

Volucella xipe Hull

1942. *Volucella xipe* Hull, Proc. New Eng. Zool. Club 19:97.
Panama: Chilibre.

Volucella yura Curran

1930. *Volucella yura* Curran, Amer. Mus. Novit. 413:22.
Peru: Yura.

Volucella zephyra Curran

1939. *Volucella zephyra* Curran, Amer. Mus. Novit. 1028:5.
Brazil: Nova Teutônia (Amer. Museum).

Genus *VOLUCELLOSIA* Curran

1930. *Volucellosia* Curran, Amer. Mus. Novit. 413:5 (type *fornax* Townsend).

Volucellosia fornax (Townsend)

1895. *Volucella fornax* Townsend, Proc. Calif. Acad. Sci. 4:613.
1905. *Volucella fornax* Aldrich, Cat. Dipt. 378.
1930. *Volucellosia fornax* Curran, Amer. Mus. Novit. 413:5.
Mexico, S. W. United States.

Genus *COPESTYLUM* Macquart

1846. *Copestylum* Macquart, Dipt. Exot. 1 Suppl.: 124 (type *marginatum* Say).
1886. *Copestylum* Williston, U. S. Nat. Mus. Bul. 31:161.
1905. *Copestylum* Aldrich, Cat. Dipt. 376.
1910. *Copestylum* Aldrich, Ent. News 21:222.
1927. *Copestylum* Curran, Ent. News 38:43.
1930. *Copestylum* Curran, Amer. Mus. Novit. 413:3.
1935. *Copestylum* Curran, Amer. Mus. Novit. 812:3.
1949. *Volucella* (*Copestylum*) Hull, Trans. Zool. Soc. London 26:347.

Regions: nearctic and neotropical.

Copestylum bequaerti Curran

1930. *Copestylum bequaerti* Curran, Amer. Mus. Novit. 416:2.

Mexico: Chichen Itza, Yucatan.

Copestylum fax Townsend

1895. *Volucella fax* Townsend, Trans. Amer. Ent. Soc. 22:42.
1905. *Volucella fax* Aldrich, Cat. Dipt. 378.
1910. *Copestylum fax* Aldrich, Ent. News 21:223.
1935. *Copestylum fax* Curran, Amer. Mus. Novit. 812:4.

Mexico?; U.S.A.: Colorado.

Copestylum limbipenne Williston

1886. *Copestylum limbipenne* Williston, U. S. Nat. Mus. Bul. 31:152.
1891. *Copestylum limbipenne* Williston, Biol. Centr. Amer., Dipt. 3:56, tab. 2, fig. 2.
1895. *Volucella lucasana* Townsend, Proc. Calif. Acad. Sci. 4:615.
1905. *Copestylum limbipennis* Aldrich, Cat. Dipt. 376.
1905. *Volucella lucasana* Aldrich, Cat. Dipt. 379.
1910. *Copestylum limbipennis* Aldrich, Ent. News 21:223.
1927. *Copestylum limbipennis* Curran, Ent. News. 38:44.

Mexico: Acapulco.

Copestylum marginatum Say

1829. *Volucella marginata* Say, Jour. Acad. Phil. 6:167.
1845. *Copestylum flaviventris* Macquart, Dipt. Exot. 1 Suppl.: 125, pl. 10, fig. 16.
1859. *Volucella marginata* Say, Compl. Wr. 2:360.
1877. *Volucella marginata* Osten Sacken, West. Dipt. 333.
1878. *Copestylum marginatum* Osten Sacken, Cat. Dipt. 130.
1886. *Copestylum marginatum* Williston, U. S. Nat. Mus. Bul. 31:151, pl. 7, figs. 1, 1a, 1b.
1891. *Copestylum marginatum* Williston, Biol. Centr. Amer., Dipt. 3:56.
1891. *Copestylum marginatum* Williston, Ent. News 2:162.
1892. *Copestylum marginatum* and *distinctum* Giglio-Tos, Mem. R.

Accad. Sci. Torino 43:40, fig.
1895. *Volucella inops,* and *tolteca* Townsend, Trans. Amer. Ent. Soc. 22:42-45.
1895. *Volucella estabana, sodomis* and *tolteca* Townsend, Proc. Calif. Acad. Sci. 4:612 and 616.
1905. *Volucella marginatum, estabana, sodomis, inops,* and *tolteca* Aldrich, Cat. Dipt. 376-381.
1927. *Copestylum marginatum* Curran, Ent. News 38:44 (synonomy).
1935. *Copestylum fax?* Curran, Amer. Mus. Novit. 812:4.

Colombia; Venezuela; Mexico: N. Sonora, Tepetlapa.

Copestylum salti Dobroscky

1930. *Copestylum salti* Dobroscky in Curran, Amer. Mus. Novit. 413:3.

Colombia: Santa Marta.

Copestylum schwarzi Curran

1935. *Copestylum schwarzi* Curran, Amer. Mus. Novit. 812:4.

Venezuela: Curacao.

Copestylum simile Giglio-Tos

1892. *Copestylum simile* Giglio-Tos, Boll. Mus. Zool. Torino 7:2.
1892. *Copestylum simile* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:42.
1892. *Copestylum parvum* Giglio-Tos, Boll. Mus. Zool. Torino 7:2.
1892. *Copestylum parvum* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:42.
1905. *Copestylum simile* and *parvum* Aldrich, Cat. Dipt. 376.
1927. *Copestylum simile* Curran, Amer. Mus. Novit. 812:43 (synonomy).

Mexico.

Genus *LEPIDOPSIS* Curran

1925. *Lepidopsis* Curran, Ann. Mag. Nat. Hist. (9) 16:247 (type *compactus* Curran).
1930. *Lepidopsis* Curran, Amer. Mus. Novit. 413:5.
1949. *Volucella* (*Lepidopsis*) Hull, Trans. Zool. Soc. London 26:347.

Region neotropical.

Lepidopsis compactus Curran

1925. *Lepidopsis compactus* Curran, Ann. Mag. Nat. Hist. (9) 16:247.
1930. *Lepidopsis compactus* Curran, Amer. Mus. Novit. 413:5.

Brazil.

Genus *VOLOSYRPHA* Shannon

1929. *Volosyrpha* Shannon, An. Mus. Nac. Hist. Nat. Buenos Aires 34:575 (type *hirtipes* Macquart).
1930. *Volosyrpha* Curran, Amer. Mus. Novit. 413:4.

1949. *Volucella* (*Volosyrpha*) Hull, Trans. Zool. Soc. London 26:348.

Region neotropical.

Volosyrpha hirtipes (Macquart)

1849. *Volucella hirtipes* Macquart, Dipt. Exot. 4 Suppl.: 130.
1883. *Phalacromyia hirtipes* Bigot, Ann. Soc. Ent. France: 81.
1888. *Apophysophora hirtipes* Williston, Trans. Amer. Ent. Soc. 15:276.
1929. *Volucella* (*Volosyrpha*) *tibialis* Shannon, An. Mus. Nac. Hist. Nat., Buenos Aires 34:575.
1930. *Volosyrpha hiritipes* Curran, Amer. Mus. Novit. 413:4.

Mexico.

Genus *VIERECKOMYIA* Curran

1925. *Viereckomyia* Curran, Ann. Mag. Nat. Hist. (9) 16:243 (type *gibbera* Schiner).
1930. *Viereckomyia* Curran, Amer. Mus. Novit. 413:5.
1949. *Volucella* (*Viereckomyia*) Hull, Trans. Zool. Soc. London 26:348.

Region neotropical.

Viereckomyia gibbera Schiner

1868. *Volucella gibbera* Schiner, Reise Novara, Dipt. 358.
1925. *Viereckomyia gibbera* Curran, Ann. Mag. Nat. Hist. (9) 16:243.
1930. *Viereckomyia gibbera* Curran, Amer. Mus. Novit. 413:5.

Colombia.

Genus *ORNIDIA* Lepeletier & Serville

1825. *Ornidia* Lepeletier & Serville, Encyc. Meth. 10:786 (type *obesa* Fabricius).
1930. *Ornidia* Curran, Amer. Mus. Novit. 413:2.
1934. *Ornidia* Curran, Bul. Amer. Mus. Nat. Hist. 66:388.
1949. *Volucella* (*Ornidia*) Hull, Trans. Zool. Soc. London 26:348.

Regions: neotropical and nearctic.

Ornidia major Curran

1930. *Ornidia major* Curran, Amer. Mus. Novit. 413:2.

Brazil.

Ornidia obesa (Fabricius)

1775. *Syrphus obesus* Fabricius, Syst. Ent. 763:5.
1794. *Syrphus obesus* Fabricius, Ent. Syst. 4:282.
1805. *Syrphus obesus* Fabricius, Syst. Antl. 227.
1825. *Ornidia obesa* Lepeletier & Serville, Encyc. Meth. 10:786.
1830. *Volucella obesa* Wiedemann, Ausser. Zweif. Ins. 2:199.
1834. *Volucella obesa* Macquart, Hist. Nat. Dipt. 1:494.
1849. *Volucella obesa* Macquart, Dipt. Exot. 2, 2:21.
1868. *Volucella obesa* Schiner, Reise Novara, Dipt. 356.

1886. *Volucella obesa* Williston, U. S. Nat. Mus. Bul. 31:143, pl. 5, fig. 9.
1888. *Volucella obesa* Williston, Trans. Amer. Ent. Soc. 15:272.
1891. *Volucella obesa* Arribálzaga, An. Soc. Cient. Argentina 32:3, 128, 263.
1891. *Volucella obesa* Williston, Biol. Centr. Amer., Dipt. 3:50.
1892. *Ornidia obesa* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:64.
1895. *Ornidia obesa* Giglio-Tos, Ann. Soc. Ent. France: 360.
1895. *Ornidia obesa* Townsend, Trans. Amer. Ent. Soc. 22:45.
1905. *Volucella obesa* Aldrich, Cat. Dipt. 380.
1914. *Ornidia obesa* Hine, Ohio Nat. 14:339.
1921. *Volucella obesa* Sack, Archiv. Naturg. 87:138, fig.
1930. *Ornidia obesa* Curran, Amer. Mus. Novit. 413:2.
1933. *Ornidia obesa* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:168.
1934. *Ornidia obesa* Curran, Bul. Amer. Mus. Nat. Hist. 66:389.

Neotropical; So. North America.

Ornidia obesoides (Giglio-Tos)

1892. *Volucella obesoides* Giglio-Tos, Boll. Mus. Zool. Torino 7:4.
1892. *Volucella obesoides* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:65.
1905. *Volucella obesoides* Aldrich, Cat. Dipt. 380.

Mexico; Argentina: Formosa (Clorinda).

Genus *APOPHYSOPHORA* Williston

1888. *Apophysophora* Williston, Trans. Amer. Ent. Soc. 15:276 (type *scutellata* Williston).
1930. *Apophysophora* Curran, Amer. Mus. Novit. 413:5.
1949. *Volucella* (*Apophysophora*) Hull, Trans. Zool. Soc. London 26:348.

Region neotropical.

Apophysophora scutellata Williston

1888. *Apophysophora scutellata* Williston, Trans. Amer. Ent. Soc. 15:277.

Brazil: Chapada; Argentina: Misiones.

Genus *MEGAMETOPON* Giglio-Tos

1891. *Megametopon* Giglio-Tos, Boll. Mus. Zool. Torino 6:5 (type *nasicum* Williston)
1891. *Ophromyia* Williston, Biol. Centr. Amer., Dipt. 3:55.
1892. *Megametopon* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:43.
1905. *Megametopon* Aldrich, Cat. Dipt. 382.
1930. *Megametopon* Curran, Amer. Mus. Novit. 413:2.
1949. *Megametopon* Hull, Trans. Zool. Soc. London 26:350.

Region neotropical.

Megametopon nasicum (Williston)

1891. *Ophromyia nasicum* Williston, Biol. Centr. Amer., Dipt. 3:55 and 79, fig.
1892. *Megametopon nasicum* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:44, fig.
1905. *Megametopon nasicum* Aldrich, Cat. Dipt. 382.

Mexico (Torino).

Megametopon violacea Curran

1930. *Megametopon violacea* Curran, Amer. Mus. Novit. 416:1.

Mexico: Chichen Itza, Yucatan.

Genus *TACHINOSYRPHUS* Hull

1936. *Tachinosyrphus* Hull, Proc. Ent. Soc. Wash. 38:167 (type *pseudotachina* Hull).
1949. *Tachinosyrphus* Hull, Trans. Zool. Soc. London 26:350.

Region neotropical.

Tachinosyrphus pseudotachina Hull

1936. *Tachinosyrphus pseudotachina* Hull, Proc. Ent. Soc. Wash. 38:167.

Peru: Crucero, Moscardones.

Genus *TAPETOMYIA* Fluke

1939. *Tapetomyia* Fluke, Ann. Ent. Soc. Amer. 32:370 (type *meyeri* Fluke).
1949. *Tapetomyia* Hull, Trans. Zool. Soc. London 26:355.

Region neotropical.

Tapetomyia meyeri Fluke

1939. *Tapetomyia meyeri* Fluke, Ann. Ent. Soc. Amer. 32:370, fig.

Mexico.

Genus *HELIOPHILUS* Meigen

1803. *Heliophilus* Meigen, Illiger's Mag. 2:273 (type *sylvarum* L.).
1822. *Xylota* Meigen, Syst. Beschr. 3:211.
1840. *Micraptoma* Westwood, Intr. to Mod. Class. of Ins. 2, Syn. Gen. Brit. Ins.: 136.
1941. *Heliophilus* Curran, Bul. Amer. Mus. Nat. Hist. 78:286.
1944. *Zelima* Goffe, Ent. Mont. Mag. 80:109.
1949. *Xylota* Hull, Trans. Zool. Soc. London 26:361.

Region worldwide.

Heliophilus analis (Williston)

1886. *Xylota analis* Williston, U. S. Nat. Mus. Bul. 31:226.

1896. *Xylota analis* Hunter, Can. Ent. 28:101.
1905. *Xylota analis* Aldrich, Cat. Dipt. 398.
1926. *Xylota analis* Shannon, Proç. U. S. Nat. Mus. 69:32.

Mexico: Sierra Madre; U.S.A.

Heliophilus arcuata (Say)

1829. *Xylota arcuata* Say, J. Acad. Phil. 6:162.
1859. *Xylota arcuata* Say, Compl. Wr. 2:357.
1905. *Xylota arcuata* Aldrich, Cat. Dipt. 398.

Mexico.

Heliophilus brachygaster (Williston)

1891. *Xylota brachygaster* Williston, Biol. Centr. Amer., Dipt. 3:72.
1905. *Xylota brachygaster* Aldrich, Cat. Dipt. 398.
1926. *Xylota brachygaster* Shannon, Proc. U. S. Nat. Mus. 69:39.

Mexico: Omilteme, Guerrero.

Heliophilus communis (Walker)

1849. *Xylota communis* Walker, List, etc. 3:557.
1893. *Xylota communis* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:344.
1905. *Xylota communis* Aldrich, Cat. Dipt. 398.

North and Central America.

Heliophilus mexicana (Bigot)

1884. *Xylota mexicana* Bigot, Ann. Soc. Ent. France: 539.

Mexico.

Heliophilus nitidulus Fluke

1939. *Heliophilus nitidulus* Fluke, Ann. Ent. Soc. Amer. 32:368, fig.

Mexico: Mexico City.

Heliophilus pachymera (Loew)

1865. *Xylota pachymera* Loew, Berl. Ent. Zeitsch. 9:162.
1885. *Xylota pachymera* Röder, Stett. Ent. Zeit. 46:342.
1886. *Xylota pachymera* Williston, U. S. Nat. Mus. Bul. 31:237.
1905. *Xylota pachymera* Aldrich, Cat. Dipt. 399.

Cuba; Puerto Rico.

Heliophilus rufipes (Williston)

1891. *Xylota rufipes* Williston, Biol. Centr. Amer., Dipt. 3:71.
1905. *Xylota rufipes* Aldrich, Cat. Dipt. 400.
1926. *Xylota rufipes* Shannon, Proc. U. S. Nat. Mus. 69:38.

Mexico: Omilteme, Guerrero.

Heliophilus stenogaster (Williston)

1891. *Xylota stenogaster* Williston, Biol. Centr. Amer., Dipt. 3:72.
1905. *Xylota stenogaster* Aldrich, Cat. Dipt. 400.
1926. *Xylota stenogaster* Shannon, Proc. U. S. Nat. Mus. 69:38.

Mexico: Omilteme, Guerrero.

Heliophilus subcostalis (Walker)

1958. *Xylota subcostalis* Walker, Trans. Ent. Soc. 5:291.
1905. *Xylota subcostalis* Aldrich, Cat. Dipt. 400.

Mexico.

Genus *NEPLAS* Porter

1863. *Planes* Rondani, Arch. Zool. 3:9 (Preoc.).
1926. *Planes* Shannon, Proc. U. S. Nat. Mus. 69:13.
1927. *Neplas* Porter, Rev. Chil. Hist. Nat. 31:96 (type *vagans* Wiedemann).
1934. *Planes* Curran, Bul. Amer. Mus. Nat. Hist. 66:402.
1941. *Planes* Curran, Bul, Amer. Mus. Nat. Hist. 78:298.
1949. *Neplas* Hull, Trans. Zool. Soc. London 26:361.

Region neotropical.

Neplas ariel (Curran)

1941. *Planes ariel* Curran, Bul. Amer. Mus. Nat. Hist. 78:302.

Brazil: São Paulo.

Neplas armatipes (Curran)

1941. *Planes armatipes* Curran, Bul. Amer. Mus. Nat. Hist. 78:300.

Brazil: Nova Teutônia.

Neplas azteca (Curran)

1941. *Planes azteca* Curran, Bul. Amer. Mus. Nat. Hist. 78:303.

Honduras: Puerto Castilla.

Neplas bidens (Curran)

1941. *Planes bidens* Curran, Bul. Amer. Mus. Nat. Hist. 78:300.

Brazil: Nova Teutônia, Chapada.

Neplas boliviensis (Shannon)

1926. *Planes boliviensis* Shannon, Proc. U. S. Nat. Mus. 69:44.

Bolivia: Huachi Beni.

Neplas chlorops (Hull)

1948. *Planes chlorops* Hull, Bol. Ent. Venezolana 7:7.
Venezuela: San Esteban.

Neplas chrysopressa (Hull)

1941. *Planes chrysopressa* Hull, Ent. News 52:158.
Panama: Barro Colorado, Canal Zone.

Neplas cuprescens (Hull)

1941. *Planes cuprescens* Hull, Ent. News 52:159.
Panama: Barro Colorado.

Neplas frontalis (Curran)

1941. *Planes frontalis* Curran, Bul, Amer. Mus. Nat. Hist. 78:302.
Brazil: Chapada.

Neplas grandifemoralis (Curran)

1934. *Planes grandifemoralis* Curran, Bul. Amer. Mus. Nat. Hist. 66:402, fig.
Br. Guiana: Kartabo.

Neplas grisea (Hull)

1941. *Planes grisea* Hull, Ent. News 52:281.
Brazil: São Paulo.

Neplas lyrica (Curran)

1941. *Planes lyrica* Curran, Bul. Amer. Mus. Nat. Hist. 78:301.
Panama: Canal Zone, Corozal.

Neplas minor (Shannon)

1926. *Planes minor* Shannon, Proc. U.S. Nat. Mus. 69:44.
Bolivia: Ivon Beni.

Neplas pachymera (Loew)

1865. *Xylota pachymera* Loew, Berl. Ent. Zeitsch. 6:54.
1886. *Xylota pachymera* Williston, U. S. Nat. Mus. Bul. 31:237.
1905. *Xylota pachymera* Aldrich, Cat. Dipt. 399.
1926. *Planes pachymera* Shannon, Proc. U. S. Nat. Mus. 69:13.
Cuba; Puerto Rico.

Neplas palitarsis (Curran)

1934. *Planes palitarsis* Curran, Bul. Amer. Mus. Nat. Hist. 66:404.
Br. Guiana: Kartabo.

Neplas panamena (Curran)

1941. *Planes panamena* Curran, Bul. Amer. Mus. Nat. Hist. 78:301.
Panama: Corozal, Barro Colorado Island, Canal Zone.

Neplas pauxilla (Williston)

1891. *Xylota pauxilla* Williston, Biol. Centr. Amer., Dipt. 3:71, tab. 2, fig. 9, 9a, 9b.
1905. *Xylota pauxilla* Aldrich, Cat. Dipt. 399.
1926. *Planes pauxilla* Shannon, Proc. U. S. Nat. Mus. 69:13.
Mexico.

Neplas pretiosa (Loew)

1857. *Xylota pretiosa* Loew, Wien Ent. Monat. 1:39.
1865. *Xylota pretiosa* Loew, Berl. Ent. Zeitsch. 6:53.
1886. *Xylota pretiosa* Williston, U. S. Nat. Mus. Bul. 31:237.
1905. *Xylota pretiosa* Aldrich, Cat. Dipt. 400.
1926. *Planes pretiosa* Shannon, Proc. U. S. Nat. Mus. 69:13.
Cuba.

Neplas proxima (Hull)

1944. *Planes proxima* Hull, Psyche 51:38.
West Indies.

Neplas puma (Curran)

1941. *Planes puma* Curran, Bul. Amer. Mus. Nat. Hist. 78:303.
Panama: Corozal, Barro Colorado Island.

Neplas rondanii (Shannon)

1926. *Planes rondanii* Shannon, Proc. U. S. Nat. Mus. 69:14.
Costa Rica: Higuito, San Mateo.

Neplas sapphirina Hull

1951. *Neplas sapphirina* Hull, Pan-Pacific Ent. 27:185.
Peru: Chanchamayo.

Neplas schildi (Shannon)

1926. *Planes schildi* Shannon, Proc. U. S. Nat. Mus. 69:15.
Costa Rica: Higuito, San Mateo.

Neplas smarti (Curran)

1941. *Planes smarti* Curran, Bul. Amer. Mus. Nat. Hist. 78:302.

Br. Guiana: Kaieteur.

Neplas vagabondans (Hull)

1941. *Planes vagabondans* Hull, Jour. Kans. Ent. Soc. 14:62.

Colombia: Restrepo.

Neplas vagans (Wiedemann)

1830. *Xylota vagans* Wiedemann, Ausser. Zweif. Ins. 2:101.
1848. *Xylota vagans* Rondani, in Truq. Studi Ent. 1:71.
1865. *Planes vagans* Rondani, Archiv. Zool. 3:9.
1868. *Syritta americana* Schiner, Reise Novara, Dipt. 367.
1883. *Planes mexicana* Bigot, Ann. Soc. Ent. France: 539.
1886. *Planes vagans* Williston, Trans. Amer. Ent. Soc. 13:321.
1888. *Syritta americana* Williston, Trans. Amer. Ent. Soc. 15:285.
1892. *Planes vagans* Williston, Biol. Centr. Amer., Dipt. 3:73.
1905. *Planes vagans* Aldrich, Cat. Dipt. 397.
1926. *Planes vagans* Shannon, Proc. U. S. Nat. Mus. 69:14.
1934. *Planes vagans* Curran, Bul. Amer. Mus. Nat. Hist. 66:403.

Br. Guiana: Kartabo, Bartica; Brazil: Pará, Ega; Panama: Taboga Is.

Neplas valeria (Hull)

1941. *Planes valeria* Hull, Ent. News 52:282.

Brazil: São Paulo.

Neplas willistoni (Shannon)

1926. *Planes willistoni* Shannon, Proc. U. S. Nat. Mus. 69:14.

Mexico: Sierra Madre, Chile.

Genus *ACROCHORDONODES* Bigot

1834. *Senogaster* Macquart, Hist. Nat. Dipt. 1:519 (Preoc.).
1842. *Senogaster* Macquart, Dipt. Exot. 2, 2:72.
1878. *Acrochordonodes* Bigot, Bul. Soc. Ent. France 13:131 (type *dentipes* Fabricius).
1886. *Senogaster* Williston, U. S. Nat. Mus. Bul. 31:238.
1926. *Acrochordonodes* Shannon, Proc. U. S. Nat. Mus. 69:43.
1949. *Senogaster* Hull, Trans. Zool. Soc. London 26:364.

Regions neotropical and nearctic.

Acrochordonodes dentipes (Fabricius)

1794. *Syrphus dentipes* Fabricius, Ent. Syst. 4:297.
1798. *Mulio dentipes* Fabricius, Ent. Syst. Suppl. 558.

1805. *Milesia dentipes* Fabricius, Syst. Antl. 194.
1805. *Milesia lineata* Fabricius, Syst. Antl. 194.
1834. *Senogaster coerulescens* Macquart, Hist. Nat. Dipt. 1:519.
1842. *Senogaster coerulescens* Macquart, Dipt. Exot. 2, 2:72.
1878. *Acrochordonodes vittatus* Bigot, Bul. Soc. Ent. France 13.
1882. *Stenogaster comstocki* Williston, Proc. Amer. Phil. Soc. 20:326.
1886. *Senogaster comstocki* Williston, U. S. Nat. Mus. Bul. 31:239, pl. 9, fig. 1.
1926. *Acrochordonodes dentipes* Shannon, Proc. U. S. Nat. Mus. 69:43.

Regions: neotropical and nearctic.

Genus *TROPIDIA* Meigen

1822. *Tropidia* Meigen, Syst. Beschr. Zweif. Ins. 3:346 (type *scita* Harris).
1862. *Tropidia* Schiner, Fauna Austr. 1:348.
1882. *Orthlophus* Bigot, Bul, Soc. Ent. France: 2.
1886. *Tropidia* Williston, U. S. Nat. Mus. Bul. 31:206.
1891. *Tropidia* Arribálzaga, An. Soc. Cient. Argentina 32:94.
1896. *Tropidia* Hunter, Ent. News 7:215.
1901. *Tropidia* Verrall, Brit. Flies, Syrph. 7:567.
1905. *Tropidia* Aldrich, Cat. Dipt. 391.
1926. *Tropidia* and *Orthlophus* Shannon, Proc. U. S. Nat. Mus. 69:9 and 42.
1933. *Tropidia* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:152.
1949. *Tropidia* and *Orthlophus* Hull, Trans. Zool. Soc. London 26:367.

Regions: palaearctic, nearctic, neotropical, ethiopian, australian.

Tropidia flavimanna Philippi

1865. *Tropidia flavimanna* Philippi, Verh. Zool.-Bot. Ges. Wien 15:745.
1933. *Tropidia flavimanna* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:153.

Chile; Argentina: Mendoza (Uspallata).

Tropidia insularis Arribálzaga

1891. *Tropidia insularis* Arribálzaga, An. Soc. Cient. Argentina 32:94 and 238.

Argentina.

Tropidia nigricornis Philippi

1865. *Tropidia nigricornis* Philippi, Verh. Zool.-Bot. Ges. Wien 15:745.
1884. *Xylota bivittata* Bigot, Ann. Soc. Ent. France 6:547.
1926. *Tropidia nigricornis* Shannon, Proc. U. S. Nat. Mus. 69:43.
1933. *Tropidia nigricornis* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:153.

Chile: Santiago.

Tropidia notata (Bigot)

1882. *Orthlophus notatus* Bigot, Bul. Soc. Ent. France: 2.

1926. *Orthologhus notatus* Shannon, Proc. U. S. Nat. Mus. 69:42.
1933. *Tropidia notata* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:153.

Argentina; Chile.

Tropidia pulchra Hull

1944. *Tropidia pulchra* Hull, Rev. de Ent. 15:52.

Argentina: Potrerillos, Mendoza.

Tropidia rubicornis Philippi

1865. *Tropidia rubicornis* Philippi, Verh. Zool.-Ges. Wien 15:744.
1933. *Tropidia rubicornis* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:153.

Argentina.

Genus *CERIOGASTER* Williston

1888. *Ceriogaster* Williston, Trans. Amer. Ent. Soc. 15:285 (type *foscithorax* Williston).
1892. *Ceriogaster* Williston, Biol. Centr. Amer., Dipt. 3:73.
1905. *Ceriogaster* Aldrich, Cat. Dipt. 400.
1925. *Zonemyia* Shannon, Proc. Ent. Soc. Wash. 27:109.
1934. *Ceriogaster* Curran, Bul. Amer. Mus. Nat. Hist. 66:405.
1943. *Ceriogaster* Hull, Rev. Soc. Ent. Argentina 12:137.
1949. *Ceriogaster* Hull, Trans. Zool. Soc. London 26:367.

Region neotropical.

Ceriogaster arethusa Hull

1944. *Ceriogaster arethusa* Hull, Rev. de Ent. 15:42.

Surinam.

Ceriogaster aureopila Hull

1941. *Ceriogaster aureopila* Hull, Jour. Wash. Acad. Sci. 31:314.

Panama: Barro Colorado.

Ceriogaster foscithorax Williston

1888. *Ceriogaster foscithorax* Williston, Trans. Amer. Ent. Soc. 15:286.
1910. *Ceriogaster foscithorax* Kertész, Cat. Dipt. 308.
1926. *Ceriogaster fuscithorax* Shannon, Proc. U. S. Nat. Mus. 69:50.
1930. *Ceriogaster fascithorax* Curran, Amer. Mus. Novit. 416:10.
1934. *Ceriogaster fascithorax* Curran, Bul. Amer. Mus. Nat. Hist. 66:405.

Brazil: Corumba, Rio de Janeiro.

Ceriogaster funebris Hull

1944. *Ceriogaster funebris* Hull, Proc. Ent. Soc. Wash. 46:11.

Br. Guiana (Brit. Museum).

Ceriogaster panamensis Curran

1930. *Ceriogaster panamensis* Curran, Amer. Mus. Novit. 416:10.

Panama: Barro Colorado Island.

Ceriogaster rudis Hull

1944. *Ceriogaster rudis* Hull, Rev. de Ent. 15:43.

Panama: Changuniola Dist.

Ceriogaster scutellata Curran

1934. *Ceriogaster scutellata* Curran, Bul. Amer. Mus. Nat. Hist. 66:405.

Br. Guiana: Kartabo.

Ceriogaster spinosa (Shannon)

1925. *Zonemyia spinosa* Shannon, Proc. Ent. Soc. Wash. 27:109.
1934. *Ceriogaster spinosa* Curran, Bul. Amer. Mus. Nat. Hist. 66:405.

Panama.

Genus *TATUOMYIA* Shannon

1926. *Tatuomyia* Shannon, Proc. U. S. Nat. Mus. 69:48 (type *batesi* Shannon).
1930. *Senoceria* Hull, Trans. Amer. Ent. Soc. 56:144.
1949. *Tatuomyia* and *Senoceria* Hull, Trans. Zool. Soc. London 26:367.

Region neotropical.

Tatuomyia batesi Shannon

1926. *Tatuomyia batesi* Shannon, Proc. U. S. Nat. Mus. 69:48.

Brazil: Ega.

Tatuomyia coarctata (Wiedemann)

1830. *Xylota coarctata* Wiedemann, Ausser. Zweif. Ins. 2:100.
1888. *Ceriogaster coarctata* Williston, Trans. Amer. Ent. Soc. 15:286.
1930. *Senoceria spinifemorata* Hull, Trans. Amer. Ent. Soc. 56:146, pl. 9, figs. 2, 5, and 6.

Brazil:

Genus *CREPIDOMYIA* Shannon

1926. *Crepidomyia* Shannon, Proc. U. S. Nat. Mus. 69:47 (type *genuina* Williston = *tricrepis* Shannon).

1934. *Crepidomyia* Curran, Bul. Amer. Mus. Nat. Hist. 66:404.
1949. *Crepidomyia* Hull, Trans. Zool. Soc. London 26:368.
1950. *Crepidomyia* Fluke, Acta Zool. Lill. 9:453.

Region neotropical.

Crepidomyia cybele Hull

1951. *Crepidomyia cybele* Hull, Pan-Pacific Ent. 27:184.

Peru: Chanchamayo.

Crepidomyia darlingtoni Hull

1944. *Crepidomyia darlingtoni* Hull, Psyche 51:40.

Cuba: Imias, Eastern Oriente.

Crepidomyia dion Hull

1951. *Crepidomyia dion* Hull, Pan-Pacific Ent. 27:183.

Peru: Chanchamayo.

Crepidomyia genuina (Williston)

1888. *Xylota genuina* Williston, Trans. Ent. Soc. Phil. 15:284.
1926. *Crepidomyia tricrepis* Shannon, Proc. U. S. Nat. Mus. 69:47.
1950. *Crepidomyia genuina* Fluke, Acta Zool. Lill. 9:453.

Peru: Piches, Perene, Rio Charape; Argentina: Tucumán (Villa Nouges).

Crepidomyia plagiata (Wiedemann)

1830. *Xylota plagiata* Wiedemann, Ausser. Zweif. Ins. 2:98.
1926. *Crepidomyia plagiata* Shannon, Proc. U. S. Nat. Mus. 69:48.
1934. *Crepidomyia plagiata* Curran, Bul. Amer. Mus. Nat. Hist. 66:404.

Br. Guiana; Brazil; Amazon.

Crepidomyia tincta Fluke

1950. *Crepidomyia tincta* Fluke, Acta Zool. Lill. 9:453, figs.

Brazil: Nova Teutônia (Amer. Museum).

Genus *STHERPHUS* Philippi

1865. *Sterphus* Philippi, Verh. Zool.-Bot. Ges. Wien 15:737 (type *coerulea* Rondani).
1933. *Sterphus* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:155.
1949. *Sterphus* Hull, Trans. Zool. Soc. London 26:369.

Region neotropical.

Sterphus aurifrons Shannon

1926. *Sterphus aurifrons* Shannon, Proc. U. S. Nat. Mus. 69:46.
1933. *Sterphus aurifrons* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:156.

Chile.

Sterphus coerulea (Rondani)

1863. *Xylota coerulea* Rondani, Archiv. Zool. 3:8.
1865. *Sterphus antennalis* Philippi, Verh. Zool.-Bot. Ges. Wien 15:737.
1888. *Sterphus coerulius* Williston, Trans. Amer. Ent. Soc. 15:285.
1891. *Sterphus autumnalis* Arribálzaga, An. Soc. Cient. Argentina 32:82.
1926. *Sterphus coerulea* Shannon, Proc. U. S. Nat. Mus. 69:46.
1933. *Sterphus coerulea* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:156.

Chile: Valparaiso.

Genus *STILBOSOMA* Philippi

1865. *Stilbosoma* Philippi, Verh. Zool.-Bot. Ges. Wien 15:736 (type *rubiceps* Philippi).
1868. *Stilbosoma* Schiner, Reise Novara, Dipt. 366.
1883. *Stilbosoma* Bigot, Ann. Soc. Ent. France: 244.
1891. *Stilbosoma* Arribálzaga, An. Soc. Cient. Argentina 32:83.
1926. *Stilbosoma* Shannon, Proc. U. S. Nat. Mus. 69:45.
1949. *Stilbosoma* Hull, Trans. Zool. Soc. London 26:369.

Region neotropical.

Stilbosoma cyanea Philippi

1865. *Stilbosoma cyanea* Philippi, Verh. Zool.-Bot. Ges. Wien 15:736.
1865. *Stilbosoma nigrinervis* Philippi, Verh. Zool.-Bot. Ges. Wien 15:737.
1891. *Stilbosoma cyanea* Arribálzaga, An. Soc. Cient. Argentina 32:84.
1933. *Stilbosoma cyanea* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:153.

Chile; Argentina: Neuquén.

Stilbosoma rubiceps Philippi

1865. *Stilbosoma rubiceps* Philippi, Verh. Zool.-Bot. Ges. Wien 15:738.
1914. *Stilbosoma rubiceps* Hine, Ohio Nat. 14:343.
1926. *Stilbosoma rubiceps* Shannon, Proc. U. S. Nat. Mus. 69:45.
1933. *Stilbosoma rubiceps* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:155.

Chile: Santiago, Valparaiso.

Genus MILESIA Latreille

1804. *Milesia* Latreille, Hist. Nat. Crust. et Ins. 14:361 (type *semiluctifera* Villeneuve).
1816. *Milesia* Fallen, Syrphici Sueciae (Disp. Dipt.): 7.

1822. *Milesia* Meigen, Syst. Beschr. Zweif Ins. 3:226.
1857. *Sphixea* Rondani, Dipt. Ital. Prodr. 2:68.
1862. *Milesia* Schiner, Fauna Austr. 1:366.
1886. *Milesia* Williston, U. S. Nat. Mus. Bul. 31:254.
1905. *Milesia* Aldrich, Cat. Dipt. 403.
1905. *Milesia* Moodie, Ent. News 16:139.
1922. *Milesia* Shannon, Bul. Brook. Ent. Soc. 17:30.
1924. *Milesia* Hull, Ent. News 35:280.
1949. *Milesia* Hull, Trans. Zool. Soc. London 26:370.

Regions: palaearctic, nearctic, neotropical, oriental.

Milesia nigra Fluke

1939. *Milesia nigra* Fluke, Ann. Ent. Soc. Amer. 32:371, fig.

Panama.

Milesia pulchra Williston

1892. *Milesia pulchra* Williston, Biol. Centr. Amer., Dipt. 3:74, tab. 2, fig. 11.
1905. *Milesia pulchra* Aldrich, Cat. Dipt. 403.
1924. *Milesia pulchra* Hull, Ent. News 35:282.

Guatemala: Purula, Senahu

Milesia virginiensis (Drury)

1773. *Musca virginiensis* Drury, Illust. Exot. Entom. Appendix 2: tab. 37, fig. 6.
1799. *Syrphus trifasciatus* Haasmann, Ent. Bemerk., 2, 67.
1805. *Milesia ornata* Fabricius, Syst. Antl. 188.
1830. *Milesia ornata* Wiedemann, Ausser. Zweif. Ins. 2:106.
1837. *Milesia virginiensis* Westwood, Drury's Exot. Entom. (2nd ed.) 2:77.
1842. *Milesia ornata* Macquart, Dipt. Exot. 2, 2:81, tab. 15, fig. 4.
1850. *Milesia limbipennis* Macquart, Dipt. Exot. 4 Suppl.: 147, table 14, fig. 3.
1884. *Sphyxea fulvifrons* Bigot, Ann. Soc. Ent. France: 341.
1886. *Milesia ornata* Williston, U. S. Nat. Mus. Bul. 31:255, pl. 12, figs 2, 2a, 2b, 2c.
1895. *Milesia ornata* Townsend, Trans. Amer. Ent. Soc. 22:54.
1905. *Milesia virginiensis* Aldrich, Cat. Dipt. 403.
1924. *Milesia virginiensis* Hull, Ent. News 35:282.

Guadeloupe.

Genus *SPILOMYIA* Meigen

1803. *Spilomyia* Meigen, Illiger's Mag. 2:273 (type *saltuum* Fabricius).
1843. *Mixtemyia* Macquart, Hist. Nat., Dipt. 1:491.
1862. *Spilomyia* Schiner, Fauna Austr. 1:364.
1886. *Spilomyia* Williston, U. S. Nat. Mus. Bul. 31:244.
1891. *Spilomyia* Arribálzaga, An. Soc. Cient. Argentina 32:85.
1930. *Spilomyia* Curran, Bul. Amer. Mus. Nat. Hist. 61:71.

1949. *Spilomyia* Hull, Trans. Zool. Soc. London 26:370.
1951. *Spilomyia* Curran, Amer. Mus. Novit. 1492:1.

Regions: neotropical, nearctic, palaearctic.

Spilomyia ephippium (Osten Sacken)

1875. *Mixtemyia ephippium* Osten Sacken, Bul. Buff. Soc. (N. S.) 3:70.
1879. *Mixtemyia ephippium* Osten Sacken, Cat. Dipt. 254.
1886. *Mixtemyia ephippium* Williston, U. S. Nat. Mus. Bul. 31:249.
1892. *Mixtemyia ephippium* Williston, Biol. Centr. Amer., Dipt. 3:74.
1951. *Spilomyia ephippium* Curran, Amer. Mus. Novit. 1492:4.

Mexico.

Spilomyia gratiosa Wulp

1888. *Spilomyia gratiosa* Wulp, Tijd. v. Ent. 31:372.
1891. *Spilomyia gratiosa* Arribálzaga, An. Soc. Cient. Argentina 32:86.

Argentina: Tucumán (Villa Nougues).

Spilomyia obscura Coquillett

1902. *Spilomyia obscura* Coquillett, Can. Ent. 34:195.
1905. *Spilomyia obscura* Aldrich, Cat. Dipt. 404.
1951. *Spilomyia obscura* Curran, Amer. Mus. Novit. 1492:9.

Mexico.

Spilomyia pallipes Bigot

1883. *Spilomyia pallipes* Bigot, Ann. Soc. Ent. France: 352.
1892. *Spilomyia pallipes* Williston, Biol. Centr. Amer., Dipt. 3:74.
1905. *Spilomyia pallipes* Aldrich, Cat. Dipt. 404.
1951. *Spilomyia pallipes* Curran, Amer. Mus. Novit. 1492:10.

Mexico.

Spilomyia pleuralis Williston

1886. *Spilomyia pleuralis* Williston, U. S. Nat. Mus. Bul. 31:247.
1905. *Spilomyia pleuralis* Aldrich, Cat. Dipt. 404.

Mexico (Museum Comp. Zool.).

Genus *MUTILLIMYIA* Hull

1943. *Mutillimyia* Hull, Rev. Soc. Ent. Argentina 12:139 (type *auricaudata* Williston).
1949. *Mutillimyia* Hull, Trans. Zool. Soc. London 26:372.

Region neotropical.

Mutillimyia auricaudata (Williston)

1892. *Ceriogaster auricaudata* Williston, Biol. Centr. Amer., Dipt. 3:73, tab. 2, fig. 10.

1905. *Ceriogaster auricaudata* Aldrich, Cat. Dipt. 400.
1926. *Ceriogaster auricaudata* Shannon, Proc. U. S. Nat. Mus. 69:50.
1934. *Ceriogaster auricaudata* Curran, Bul. Amer. Mus. Nat. Hist. 66:405.
1943. *Mutillimyia auricaudata* Hull, Rev. Soc. Ent. Argentina 12:139.

Mexico: Omilteme.

Genus *CRIORHINA* Meigen

1822. *Criorhina* Meigen, Syst. Beschr. Zweif. Ins. 3:236 (type *asilica* Fallen).
1825. *Criorhina* St. Fargeau & Serville, Encyc. Meth. 10:518.
1834. *Somula* Macquart, Hist. Nat. Dip. 1:497.
1847. *Somula* Macquart, Mem. Soc. Sci. Lille Sup. 2:57.
1862. *Criorhina* Schiner, Fauna Austr. 1:349.
1882. *Brachymyia* Williston, Biol. Centr. Amer., Dipt. 3:77.
1882. *Eurhinomallota* Bigot, Bul. Ent. Soc. France: 6.
1886. *Criorhina* Williston, U. S. Nat. Mus. Bul. 31:209.
1901. *Criorhina* Verrall, Brit. Flies, Syrph. 576.
1905. *Criorhina* Aldrich, Cat. Dipt. 402.
1924. *Criorhina* Curran, Kans. Univ. Sci. Bul. 15:140.
1945. *Penthesilea* Goffe, Ent. Mont. Mag. 81:246.
1949. *Criorrhina* Hull, Trans. Zool. Soc. London 26:372.

Regions: palaerctic, nearctic, neotropical, oriental, australian.

Criorhina metallica (Bigot)

1882. *Eurhinomallota metallica* Bigot, Ent. Soc. France: 78.
1882. *Brachymyia lupina?* Williston, Can. Ent. 14:77.
1886. *Eurhinomallota metallica* Williston, U. S. Nat. Mus. Bul. 31:211.

Mexico.

Criorhina tapeta Fluke

1939. *Criorhina tapeta* Fluke, Ann. Ent. Soc. Amer. 32:369, fig.

Mexico.

Genus *ERIOPHORA* Philippi

1865. *Eriophora* Philippi, Verh. Zool.-Bot. Ges. Wien 15:736 (type *aureorufa* Philippi).
1926. *Eriophora* Shannon, Proc. U. S. Nat. Mus. 69:49.
1949. *Eriophora* Hull, Trans. Zool. Soc. London 26:372.

Region neotropical.

Eriophora aureorufa Philippi

1865. *Eriophora aureorufa* Philippi, Verh. Zoll.-Bot. Ges. Wien 15:736, fig.
1926. *Eriophora aureorufa* Shannon, Proc. U. S. Nat. Mus. 69:50.
1933. *Eriophora aureorufa* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:152.

Chile.

Genus *NOSODEPUS* Speiser

1913. *Nosodepus* Speiser, Jb. Nassau. Ver. Naturk. Wiesbaden 66:131 (type *minotaurus* Speiser).
1949. *Nosodepus* Hull, Trans. Zool. Soc. London 26:373.

Region neotropical.

Nosodepus minotaurus Speiser

1913. *Nosodepus minotaurus* Speiser, Jb. Nassau. Ver. Naturk. Wiesbaden 66:132, figs.

Peru.

Nosodepus montensis Hull

1938. *Nosodepus montensis* Hull, Ann. Carnegie Museum 27:122, pl. 8, figs. 1, 12.

Venezuela: Colonia Tovar, Aragua.

Genus *MACROMETOPIA* Philippi

1865. *Macrometopia* Philippi, Verh. Zool.-Bot. Ges. Wien 15:740 (type *atra* Philippi).
1949. *Macrometopia* Hull, Trans. Zool. Soc. London 26:373.

Region neotropical.

Macrometopia atra Philippi

1865. *Macrometopia atra* Philippi, Verh. Zool.-Bot. Ges. Wien 15:740.
1933. *Macrometopia atra* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:158.

Argentina: Neuquén (Hua Hum).

Genus *CRIOPRORA* Osten Sacken

1878. *Crioprora* Osten Sacken, Cat. Dipt. 251 (type *alopex* Osten Sacken).
1883. *Romaleosyrphus* Bigot, Ann. Soc. Ent. France: 356.
1886. *Crioprora* Williston, U. S. Nat. Mus. Bul. 31:217.
1892. *Crioprora* Williston, Biol. Centr. Amer., Dipt. 3:72.
1905. *Crioprora* Aldrich, Cat. Dipt. 401.
1949. *Crioprora* Hull, Trans. Zool. Soc. London 26:374.

Regions: nearctic, neotropical.

Crioprora arctophiloides Giglio-Tos

1892. *Crioprora arctophiloides* Giglio-Tos, Boll. Mus. Zool. Torino 7:7.
1892. *Crioprora arctophiloides* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:25, fig.
1905. *Crioprora arctophiloides* Aldrich, Cat. Dipt. 401.

Mexico.

Crioprora villosa (Bigot)

1883. *Romaleosyrphus villosus* Bigot, Ann. Soc. Ent. France: 356.
1892. *Crioprora villosa* Williston, Biol. Centr. Amer., Dipt. 3:72.
1905. *Crioprora villosa* Aldrich, Cat. Dipt. 401.

Mexico.

Genus PHILIPPIMYIA Shannon

1926. *Philippimyia* Shannon, Proc. U. S. Nat. Mus. 69:47 (type *Sterphus cyanocephala* Philippi).
1949. *Philippimiya* Hull, Trans. Zool. Soc. London 26:374.

Region neotropical.

Philippimyia cyanocephala (Philippi)

1865. *?Sterphus cyanocephala* Philippi, Verh. Zool.-Bot. Ges. Wien 15:738.
1926. *Philippimyia cyanocephala* Shannon, Proc. U. S. Nat. Mus. 69:47.

Chile: Santiago.

Genus *HEMIXYLOTA* Shannon & Aubertin

1933. *Hemixylota* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:146 (type *varipes* Shannon & Aubertin).
1949. *Hemixylota* Hull, Trans. Zool. Soc. London 26:375.

Region neotropical.

Hemixylota incerta Shannon & Aubertin

1933. *Hemixylota incerta* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:148.

Argentina (Brit. Museum).

Hemixylota unicolor Shannon & Aubertin

1933. *Hemixylota unicolor* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:148.

Argentina (Brit. Museum).

Hemixylota varipes Shannon & Aubertin

1933. *Hemixylota varipes* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:146.

Argentina: Neuquén (Zapala) — (Brit. Museum).

Genus *CERIOIDES* Rondani

1794. *Ceria* Fabricius (not Scopoli), Ent. Syst. 4:277.
1803. *Ceria* Meigen, Illiger's Mag. 2:271.
1804. *Ceria* Meigen, Klassif. 1:281.

1804. *Ceria* Latreille, Hist. Nat. Crust. & Ins. 14:356.
1805. *Ceria* Fabricius, Syst. Antl. 173.
1809. *Ceria* Latreille, Gen. Crust. 4:327.
1816. *Ceria* Fallen, Syrph. Suec. (Disp. Dipt.): 6.
1822. *Ceria* Meigen, Syst. Beschr. 3:158.
1834. *Ceria* Macquart, Hist. Nat. Dipt. 1:484.
1843. *Ceria* Zetterstedt, Dipt. Scand. 2:631.
1850. *Cerioides* Rondani, Ann. Soc. Ent. France 2:211 (type *subsessilis* Illiger).
1850. *Sphiximorpha* Rondani, Ann. Soc. Ent. France 2:212.
1853. *Ceria* Loew, Neu. Beitrag. Kennt. Dipt. 1:1.
1856. *Ceria* & *Sphiximorpha* Rondani, Dipt. Ital. Prodr. 55.
1857. *Ceria* & *Sphiximorpha* Rondani, Dipt. Ital. Prodr. 212, 214.
1862. *Ceria* Schiner, Fauna Austr. 1:368.
1886. *Ceria* Williston, U. S. Nat. Mus. Bul. 31:259.
1888. *Ceria* Williston, Trans. Amer. Ent. Soc. 15:286.
1891. *Ceria* Arribálzaga, An. Soc. Cient. Argentina 32:147.
1925. *Polybiomyia* Shannon, Ins. Insci. Mens. 13:56.
1934. *Styloceria* Enderlein, Sitz. Naturf. Fr. Berlin: 181.
1941. *Cerioides* Curran, Bul. Amer. Mus. Nat. Hist. 78:243.
1945. *Cerioides* Goffe, The Entomologist: 120.
1949. *Cerioides; Polybiomyia* (*Polistoceria* and *Ceriathrix*); Hull, Trans. Zool. Soc. London 26:380 and 381.

Region worldwide.

Cerioides acra Curran

1941. *Cerioides acra* Curran, Bul. Amer. Mus. Nat. Hist. 78:246.

Brazil: Nova Teutônia.

Cerioides arietis (Loew)

1853. *Ceria arietis* Loew, Neue Beitr. Kennt. Dipt. 1:17.
1892. *Ceria arietes* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:32.
1905. *Ceria arietes* Aldrich, Cat. Dipt. 406.

Mexico.

Cerioides barbipes (Loew)

1853. *Ceria barbipes* Loew, Neue Beitr. Kennt. Dipt. 1:19, 18.
1882. *Ceria barbipes* Wulp, Tijd. v. Ent. 25:122.
1888. *Ceria barbipes* Williston, Trans. Amer. Ent. Soc. 15:290.
1891. *Ceria barbipes* Arribálzaga, An. Soc. Cient. Argentina 32:150.
1943. *Cerioides barbipes* Lane & Carrera, Rev. de Ent. 14:168.

Argentina; Brazil: Chapada, Rio de Janeiro, São Paulo, Pôrto Cabral.

Cerioides bassleri Curran

1941. *Cerioides bassleri* Curran, Bul. Amer. Mus. Nat. Hist. 78:245.

Peru: Upper Rio Huallaga.

Cerioides bergrothi (Williston)

1891. *Ceria bergrothi* Williston, Biol. Centr. Amer., Dipt. 3:77.
1905. *Ceria bergrothi* Aldrich, Cat. Dipt. 406.

Mexico: Atoyac.

Cerioides bicolor (Kertèsz)

1902. *Ceria bicolor* Kertèsz, Term. Füzet. 25:86.
1903. *Ceria bicolor* Kertèsz, Ann. Mus. Nat. Hung. 1:434.

Peru; Bolivia.

Cerioides bigotii (Williston)

1888. *Ceria bigotii* Williston, Trans. Amer. Ent. Soc. 15:291.
1943. *Cerioides bigoti* Lane & Carrera, Rev. de Ent. 14:169.

Brazil: Chapada, Rio de Janeiro, São Paulo, Pôrto Cabral.

Cerioides boliviana (Kertèsz)

1903. *Ceria boliviana* Kertèsz, Ann. Mus. Nat. Hung. 1:434.

Bolivia.

Cerioides brauerii (Williston)

1888. *Ceria brauerii* Williston, Trans. Amer. Ent. Soc. 15:289.
1925. *Cerioides brauerii philippi* Shannon, Ins. Insci. Mens. 13:63.
1949. *Polybiomyia* (*Polistoceria*) *brauerii* Hull, Trans. Zool. Soc. London 26:381.

Bolivia; Brazil: Chapada, Santarém.

Cerioides cacica (Walker)

1858. *Ceria cacica* Walker, Trans. Ent. Soc. (N. S.) 5:287.
1905. *Ceria cacica* Aldrich, Cat. Dipt. 406.

Mexico.

Cerioides capitis Curran

1924. *Cerioides capitis* Curran, Kans. Univ. Sci. Bul. 15:27, pl. 1.
1925. *Polybiomyia capitis* Shannon, Ins. Insci. Mens. 13:61.

Mexico: Mexico City.

Cerioides daphnaeus (Walker)

1849. *Ceria daphnaeus* Walker, List., etc. 3:537.
1850. *Ceria daphnaeus* Westwood, Trans. Ent. Soc. 5:231, pl. 33, fig. 7.
1853. *Ceria daphnaeus* Loew, Neue Beitr. Kennt. Dipt. 1:18.
1905. *Ceria daphnaeus* Aldrich, Cat. Dipt. 406.

Jamaica.

Cerioides facialis (Kertèsz)

1903. *Ceria facialis* Kertèsz, Ann. Mus. Nat. Hung. 1:439.
1943. *Cerioides facialis* Lane & Carrera, Rev. de Ent. 14:168.
1949. *Polybiomyia* (*Polistoceria*) *facialis* Hull, Trans. Zool. Soc. London 26:381.

Brazil: Estado da Paraná, Iguassu.

Cerioides flavosignata (Kertèsz)

1902. *Ceria flavosignata* Kertèsz, Term. Füzet. 25:89.
1903. *Ceria flavosignata* Kertèsz, Ann. Mus. Nat. Hung. 1:434.

Bolivia; Peru.

Cerioides kerteszi Shannon

1925. *Cerioides kerteszi* Shannon, Ins. Insci. Mens. 13:63.
1949. *Polybiomyia* (*Polistoceria*) *kerteszi* Hull, Trans. Zool. Soc. London 26:380.

Peru.

Cerioides lynchii (Williston)

1888. *Ceria lynchii* Williston, Trans. Amer. Ent. Soc. 15:287.

Brazil: Chapada.

Cerioides macquarti (Shannon)

1886. *Ceria scutellata* Williston (not Macquart), U. S. Nat. Mus. Bul. 31:265.
1905. *Ceria scutellata* Aldrich, Cat. Dipt. 406.
1925. *Polybiomyia macquarti* Shannon, Ins. Insci. Mens. 13:59.

Mexico.

Cerioides meadei (Williston)

1891. *Ceria meadei* Williston, Biol. Centr. Amer., Dipt. 3:76, tab. 2, fig. 12.
1905. *Ceria meadei* Aldrich, Cat. Dipt. 406.

Mexico: Xucumanatlan.

Cerioides mikii (Williston)

1888. *Ceria mikii* Williston, Trans. Amer. Ent. Soc. 15:288.
1943. *Cerioides miki* Lane & Carrera, Rev. de Ent. 14:167.

Brazil: Chapada, Mato Grosso, Bodoquena.

Cerioides nigra (Bigot)

1883. *Sphyximorpha nigra* Bigot, Ann. Soc. Ent. France: 317.

1892. *Ceria nigra* Williston, Biol. Amer., Dipt. 3:77.
1905. *Ceria nigra* Aldrich, Cat. Dipt. 406.

Mexico.

Cerioides nigripennis (Williston)

1886. *Ceria nigripennis* Williston, U. S. Nat. Mus. Bul. 31:263.
1905. *Ceria nigripennis* Aldrich, Cat. Dipt. 406.

Mexico.

Cerioides odontomera Curran

1941. *Cerioides odontomera* Curran, Bul. Amer. Mus. Nat. Hist. 78:244.
1943. *Cerioides odontomera* Lane & Carrera, Rev. de Ent. 14:168.
1952. *Cerioides odontomera* D'Andretta & Carrera, Pap. Avul. 10:298.

Brazil: Chapada, São Paulo, Pôrto Cabral, Acre.

Cerioides pedicellata (Williston)

1886. *Ceria pedicellata* Williston, U. S. Nat. Mus. Bul. 31:264.
1891. *Ceria pedicellata* Williston, Biol. Centr. Amer., Dipt. 3:77.
1905. *Ceria pedicellata* Aldrich, Cat. Dipt. 406.
1924. *Cerioides pedicellata* Curran, Kans. Univ. Sci. Bul. 15:30, fig.

Texas; Mexico; Jaral, Isthmus of Tehuantepec.

Cerioides picta (Kertèsz)

1902. *Ceria picta* Kertèsz, Term. Füzet 25:87.
1903. *Ceria picta* Kertèsz, Ann. Mus. Nat. Hung. 1:433.

Bolivia; Peru.

Cerioides plaumanni Curran

1941. *Cerioides plaumanni* Curran, Bul. Amer. Mus. Nat. Hist. 78:245.

Brazil: Nova Teutônia.

Cerioides polistes Curran

1941. *Cerioides polistes* Curran, Bul. Amer. Mus. Nat. Hist. 78:246.

Brazil: Nova Teutônia; Paraguay: Paso Yobai.

Cerioides polistiformis Hull

1944. *Cerioides polistiformis* Hull, Jour. Wash. Acad. Sci. 34:404.

Bolivia (Vienna Nat. Museum).

Cerioides pyrrhocera (Kertèsz)

1903. *Ceria pyrrhocera* Kertèsz, Ann. Mus. Nat. Hung. 1:435.

Bolivia.

Cerioides roederii (Williston)

1888. *Ceria roederii* Williston, Trans. Amer. Ent. Soc. 15:289.
1949. *Polybiomyia* (*Polistoceria*) *roederii* Hull, Trans. Zool. Soc. London 26:381.

Brazil: Chapada.

Cerioides rubrobrunnea Hull

1944. *Cerioides rubrobrunnea* Hull, Jour. Wash. Acad. Sci. 34:403.

Colombia: Muso (Vienna Nat. Museum).

Cerioides rufibasis (Bigot)

1883. *Sphyximorpha rufibasis* Bigot, Ann. Soc. Ent. France: 318.
1905. *Ceria rufibasis* Aldrich, Cat. Dipt. 406.

Mexico.

Cerioides sackenii (Williston)

1888. *Ceria sackenii* Williston, Trans. Amer. Ent. Soc. 15:287.

Brazil: Chapada; Argentina: Formosa, Tucumán.

Cerioides schnablei (Williston)

1892. *Ceria schnablei* Williston, Biol. Centr. Amer., Dipt. 3:76.
1905. *Ceria schnablei* Aldrich, Cat. Dipt. 406.
1925. *Polybiomyia schnablei* Shannon, Ins. Insci. Mens. 13:59.

Mexico: Vera Cruz, Atoyac.

Cerioides schwarzi (Shannon)

1925. *Polybiomyia schwarzi* Shannon, Ins. Insci. Mens. 13:57.

Panama.

Cerioides scutellata (Williston)

1886. *Ceria scutellata* Williston, U. S. Nat. Mus. Bul. 31:265.

Mexico.

Cerioides shannoni Lane & Carrera

1943. *Cerioides shannoni* Lane & Carrera, Rev. de Ent. 14:169.

Brazil: São Paulo, Juquiá.

Cerioides signifera (Loew)

1853. *Ceria signifera* Loew, Neue Beitr. Kennt. Dipt. 1:18.
1886. *Ceria signifera* Williston, U. S. Nat. Mus. Bul. 31:262.
1892. *Ceria signifera* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:32.

1897. *Ceria willistoni* Kahl, Kans. Univ. Quart. 6:141.
1903. *Ceria willistoni* Banks, Proc. Ent. Soc. Wash. 5:310.
1905. *Ceria signifera* Aldrich, Cat. Dipt. 406.
1924. *Cerioides signifera* Curran, Kans. Univ. Sci. Bul. 15:31, fig.

Mexico; U.S.A.

Cerioides superba (Williston)

1886. *Ceria superba* Williston, U. S. Nat. Mus. Bul. 31:264.
1905. *Ceria superba* Aldrich, Cat. Dipt. 406.

Mexico.

Cerioides travassosi Lane & Carrera

1943. *Cerioides travassosi* Lane & Carrera, Rev. de Ent. 14:172.

Brazil: São Paulo, Pôrto Cabral.

Cerioides trichopoda (Kertèsz)

1903. *Ceria trichopoda* Kertèsz, Ann. Mus. Nat. Hung. 1:438.

Bolivia.

Cerioides variabilis (Kertèsz)

1903. *Ceria variabilis* Kertèsz, Ann. Mus. Nat. Hung. 1:437.

Peru; Bolivia.

Cerioides verralli (Williston)

1891. *Ceria verralli* Williston, Biol. Centr. Amer., Dipt. 3:75.
1905. *Ceria verralli* Aldrich, Cat. Dipt. 407.

Panama: David.

Cerioides vicina (Kertèsz)

1902. *Ceria vicina* Kertèsz, Term. Füzet. 25:89.
1903. *Ceria vicina* Kertèsz, Ann. Mus. Nat. Hung. 1:433.

Peru.

Cerioides vittipes Curran

1941. *Cerioides vittipes* Curran, Bul. Amer. Mus. Nat. Hist. 78:246.

Peru: Puerto Bermudez.

Cerioides wulpii (Williston)

1888. *Ceria wulpii* Williston, Trans. Amer. Ent. Soc. 15:290.
1921. *Cerioides wulpii* Sack, Archiv. Naturg. 87:149, fig.
1943. *Cerioides wulpii* Lane & Carrera, Rev. de Ent. 14:169.

Brazil: Rio de Janeiro, Chapada, São Paulo, Pôrto Cabral, Iguassu.

Genus *MONOCEROMYIA* Shannon

1922. *Monoceromyia* Shannon, Bul. Brook. Ent. Soc. 17:33 (type *tricolor* Loew).
1925. *Monoceromyia* Shannon, Ins. Insci. Mens. 13:55.
1949. *Monoceromyia* Hull, Trans. Zool. Soc. London 26:381.

Region worldwide.

Monoceromyia tricolor (Loew)

1861. *Ceria tricolor* Loew, Berl. Ent. Zeitsch. 1:37.
1905. *Ceria tricolor* Aldrich, Cat. Dipt. 406.
1922. *Monoceromyia tricolor* Shannon, Bul. Brook. Ent. Soc. 17:41.
1925. *Monoceromyia tricolor* and var. *floridensis* Shannon, Ins. Insci. Mens. 13:55.

Cuba; U.S.A.: Florida.

Genus *HELOPHILUS* Meigen

1803. *Elophilus* Meigen, Illiger's Mag. 2:274 (type *pendula* Linneaus).
1805. *Helophilus* Fabricius, Syst. Antl. 233.
1822. *Helophilus* Meigen, Syst. Beschr. 3:338.
1832. *Helophilus* Curtis, Brit. Ent.: 429.
1862. *Helophilus* Schiner, Fauna Austr. 1:337.
1886. *Helophilus* Williston, U. S. Nat. Mus. Bul. 31:183, 295.
1891. *Helophilus* Arribálzaga, An. Soc. Cient. Argentina 32:89.
1901. *Helophilus* Verral, Brit. Flies, Syrph. 523.
1905. *Helophilus* Aldrich, Cat. Dipt. 523.
1910. *Helophilus* Becker, Berl. Ent. Zeit. 55:213.
1923. *Helophilus* Hine, Ohio Jour. Sci. 23:193.
1926. *Helophilus* Curran & Fluke, Trans. Wis. Acad. Sci., Arts & Lett. 22:207.
1949. *Helophilus* Hull, Trans. Zool. Soc. London 26:386.

Region worldwide.

Helophilus formalis Walker

1849. *Helophilus formalis* Walker, List, etc. 3:603.
1886. *Helophilus formalis* Williston, U. S. Nat. Mus. Bul. 31:198.
1905. *Helophilus formalis* Aldrich, Cat. Dipt. 392.

Mexico.

Helophilus latifrons Loew

1863. *Helophilus latifrons* Loew, Berl. Ent. Zeit. 4:73.
1877. *Helophilus latifrons* Osten Sacken, West. Dipt. 3:337.
1886. *Helophilus latifrons* Williston, U. S. Nat. Mus. Bul. 31:188.
1892. *Helophilus trivittatus* Giglio-Tos, (not Fabricius), Mem. R. Accad. Sci. Torino 43:18.
1905. *Helophilus latifrons* Aldrich, Cat. Dipt. 393.
1926. *Helophilus latifrons* Curran & Fluke, Trans. Wis. Acad. Sci., Arts & Lett. 22:216, fig.

Mexico; North and South America.

Helophilus lizeri Brèthes

1916. *Helophilus lizeri* Brèthes, Anal. Mus. Nac. Buenos Aires 26:97.

Argentina: Cordoba.

Helophilus similis Macquart

1842. *Helophilus similis* Macquart, Dipt. Exot. 2, 2:64.
1849. *Helophilus fasciatus* Walker, List, etc. 3:605.
1849. *Helophilus decisus* Walker, List, etc. 3:614.
1858. *Eristalis impositus* Walker, Trans. Ent. Soc. London: 289.
1867. *Helophilus susurrans* Jaennicke, Abh. Senck. Nat. Ges. 6:402.
1876. *Helophilus similis, decisa,* and *susurrans* Osten Sacken, Bul. Buffalo Soc. Nat. Hist. 3:57, 64.
1882. *Helophilus similis* Wulp, Tijd. v. Ent. 25:132.
1886. *Helophilus similis* Williston, U. S. Nat. Mus. Bul. 31:189, fig.
1895. *Helophilus similis* Snow, Kans. Univ. Quart. 3:243.
1905. *Helophilus similis* Moodie, Ent. News 16:142.
1905. *Helophilus impositus* and *similis* Aldrich, Cat. Dipt. 386 and 394.

North America; Haiti.

Genus *ASEMOSYRPHUS* Bigot

1882. *Asemosyrphus* Bigot, Bul. Soc. Ent. France: 128 (type *mexicanus* Macquart).
1883. *Asemosyrphus* Bigot, Bul. Soc. Ent. France: 228.
1892. *Asemosyrphus* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:18.
1905. *Asemosyrphus* Aldrich, Cat. Dipt. 394.
1926. *Asemosyrphus* Curran & Fluke, Trans. Wis. Acad. Sci., Arts. & Lett. 22:247.
1939. *Asemosyrphus* Curran, Amer. Mus. Novit. 1031:1.
1949. *Asemosyrphus* Hull, Trans. Zool. Soc. London 26:386.

Regions: nearctic and neotropical.

Asemosyrphus bicolor Bigot

1882. *Asemosyrphus bicolor* Bigot, Bul. Soc. Ent. France: 128.
1883. *Asemosyrphus bicolor* Bigot, Ann. Soc. Ent. France: 350.
1892. *Asemosyrphus impurus* and *olivaceus* Giglio-Tos, Boll. Mus. Zool. Torino 7:6.
1892. *Asemosyrphus bicolor* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:19.
1905. *Asemosyrphus bicolor* Aldrich, Cat. Dipt. 394.
1926. *Asemosyrphus bicolor* Curran & Fluke, Trans. Wis. Acad. Sci., Arts & Lett. 22:248.
1939. *Asemosyrphus bicolor* Curaan, Amer. Mus. Novit. 1031:2.

Mexico: Mexico City.

Asemosyrphus mexicanus (Macquart)

1842. *Helophilus mexicanus* Macquart, Dipt. Exot. 2,2:64.
1883. *Asemosyrphus oculiferus, nigroscutatus,* and *flavocaudatus* Bigot, Ann. Soc. Ent. France: 350, 351.

1886. *Helophilus mexicanus* Williston, U. S. Nat. Mus. Bul. 31:186, fig.
1891. *Helophilus mexicanus* Williston, Biol. Centr. Amer., Dipt. 3:68.
1892. *Asemosyrphus griseus* Giglio-Tos, Boll. Mus. Zool. Torino 7:6.
1892. *Asemosyrphus mexicanus* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:20.
1905. *Asemosyrphus mexicanus* Aldrich, Cat. Dipt. 394.
1939. *Asemosyrphus bicolor* Curran, Amer. Mus. Novit. 1031:2.

Mexico.

Genus *DOLICHOGYNA* Macquart

1842. *Dolichogyna* Macquart, Dipt. Exot. 2, 2:65 (type *chilensis* Guerin).
1852. *Dolichogyna* Blanchard, in Gay's Hist. fis. polit. Chile 8:47.
1865. *Dolichogyna* Philippi, Verh. Zool.-Bot. Ges. Wien 15:150.
1868. *Dolichogyna* Schiner, Reise Novara, Dipt. 339.
1882. *Dolichogyna* Wulp, Tijd. v. Ent. 25:133.
1883. *Dolichogyna* Bigot, Ann. Soc. Ent. France: 242.
1891. *Helophilus* Arribálzaga, An. Soc. Cient. Argentina 32:89.
1914. *Dolichogyna* Hine, Ohio Nat. 14:342.
1933. *Dolichogyna* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:164.
1949. *Dolichogyna* Hull, Trans. Zool. Soc. London 26:386.
1951. *Dolichogyna* Fluke, Acta Zool. Lill. 12:465.

Region neotropical.

Dolichogyna abrupta Hine

1914. *Dolichogyna abrupta* Hine, Ohio Nat. 14:342.
1951. *Dolichogyna abrupta* Fluke, Acta Zool. Lill. 12:472, figs.

Chile; Peru (Ohio State Univ. Museum).

Dolichogyna chilensis (Guerin)

1835. *Helophilus chilensis* Guerin, Iconog. d. Règne Anim. Ins.: 545, tab. 99, fig. 2.
1837. *Helophilus chilensis* Walke, Trans. Linn. Soc. London 17:344.
1842. *Dolichogyna chilensis* Macquart, Dipt. Exot. 2, 2:66.
1886. *Dolichogyna fasciata* Williston, Trans. Amer. Ent. Soc. 13:320.
1888. *Helophilus hahni* Bigot, Miss. Sci. Cape Horn. Zool. 4:24.
1893. *Dolichogyna chilensis* Arribálzaga, An. Soc. Cient. Argentina 32:92.
1914. *Dolichogyna chilensis* and *fasciata* Hine, Ohio Nat. 14:343.
1933. *Dolichogyna chilensis* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:165.
1951. *Dolichogyna chilensis* Fluke, Acta Zool. Lill. 12:467, figs.

Chile; Argentina: Neuquén.

Dolichogyna hinei Fluke

1951. *Dolichogyna* (*Conocotamyia*) *hinei* Fluke, Acta Zool. Lill. 12:476, figs.

Peru: Puno (Ohio State Museum).

Dolichogyna mulleri Fluke

1951. *Dolichogyna mulleri* Fluke, Acta Zool. Lill. 12:470, figs.

Ecuador (Amer. Museum).

Dolichogyna nigripes Bigot

1883. *Dolichogyna nigripes* Bigot, Ann. Soc. Ent. France: 346.
1933. *Dolichogyna picta* Shannon & Aubertin (not Philippi), Dipt. Patagonia S. Chile 6:165, fig.
1951. *Dolichogyna* (*Conocotamyia*) *nigripes* Fluke, Acta Zool. Lill. 12:477, figs. (*Conocotamyia* = *Nosodepus?*).

Argentina; Chile (Brit. Museum).

Dolichogyna picta (Philippi)

1865. *Helophilus picta* Philippi, Verh. Zool.-Bot. Ges. Wien 15:743.
1951. *Dolichogyna* (*Conocotamyia*) *picta* Fluke, Acta Zool. Lill. 12:474, figs.

Argentina; Chile (Univ. Chile Coll).

Dolichogyna reynoldsi Shannon & Aubertin

1933. *Dolichogyna reynoldsi* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:165.
1951. *Dolichogyna* (*Conocotamyia*) *reynoldsi* Fluke, Acta Zool. Lill. 12:475, figs.

Argentina: Tierra del Fuego; Chile.

Genus *EDWARDSIETTA* Hull

1941. *Edwardsietta* Hull, Jour. Wash. Acad. Sci. 31:437 (type *ochracea* Hull).
1949. *Edwardsietta* Hull, Trans. Zool. Soc. London 26:389.

Region neotropical.

Edwardsietta ochracea Hull

1941. *Edwardsietta ochracea* Hull, Jour. Wash. Acad. Sci. 31:437.

Panama: Barro Colorado.

Genus *QUICHUANA* Knab

1913. *Quichuana* Knab, Ins. Insci. Mens. 1:13 (type *sylvicola* Knab).
1925. *Quichuana* Shannon, Proc. Ent. Soc. Wash. 27:111.
1927. *Quichuana* Shannon, Proc. U. S. Nat. Mus. 70:14.
1946. *Quichuana* Hull, Amer. Mus. Novit. 1317:1.
1949. *Quichuana* Hull, Trans. Zool. Soc. London 26:391.

Region neotropical.

Quichuana angustiventris (Macquart)

1855. *Merodon angustiventris* Macquart, Dipt. Exot. 5 Suppl.: 90, fig.
1927. *Quichuana angustiventris* Shannon, Proc. U. S. Nat. Mus. 70:15.
1943. *Quichuana angustiventris* Hull, Proc. Ent. Soc. Wash. 45:10.
1946. *Quichuana angustiventris* Hull, Amer. Mus. Novit. 1317:12.

South America.

Quichuana auratus (Walker)

1857. *Helophilus auratus* Walker, Trans. Ent. Soc. London (N. S.) 4:153.
1927. *Quichuana auratus* Shannon, Proc. U. S. Nat. Mus. 70:15.
1943. *Quichuana auratus* and *angustiventris* Hull, Proc. Ent. Soc. Wash. 45:10.
1946. *Quichuana auratus* Hull, Amer. Mus. Novit. 1317:12, fig. 2.

Colombia; Peru: Rio Ucayali.

Quichuana bezzii Ceresa

1934. *Quichuana bezzii* Ceresa, Att. Soc. Ital. Sci. Nat. Milano 73:387.
1944. *Quichuana bezzii* Lane & Carrera, Rev. de Ent. 15:205.
1946. *Quichuana bezzii* Hull, Amer. Mus. Novit. 1317:9.
1952. *Quichuana bezzii* D'Andretta & Carrera, Pap. Avul. 10:304.

Brazil: San Sebastião, São Paulo; Argentina: Villa Nouges en Tucumán.

Quichuana borgmeieri Lane & Carrera

1944. *Quichuana borgmeieri* Lane & Carrera, Rev. de Ent. 15:206.
1946. *Quichuana borgmeieri* Hull, Amer. Mus. Novit. 1317:14.

Brazil: São Paulo.

Quichuana calathea Shannon

1925. *Quichuana calathea* Shannon, Proc. Ent. Soc. Wash. 27:111.
1946. *Quichuana calathea* Hull, Amer. Mus. Novit. 1317: 8, fig. 13.

Panama: Porto Bello; Colombia: Cordillera V, Muzo, Restrepo.

Quichuana cestus Hull

1946. *Quichuana cestus* Hull, Amer. Mus. Novit. 1317:4, figs. 4, 14, 16.

Venezuela: Mt. Duida.

Quichuana championi (Williston)

1891. *Mallota? championi* Williston, Biol. Centr. Amer., Dipt. 3:69.
1946. *Quichuana championi* Hull, Amer. Mus. Novit. 1317:9, figs.

Mexico.

Quichuana cincta (Bigot)

1883. *Lepidomyia cincta* Bigot, Ann. Soc. Ent. France: 345.
1943. *Quihuana cincta* Hull, Proc. Ent. Soc. Wash. 45:9.
1946. *Quichuana cincta* Hull, Amer. Mus. Novit. 1317:9, figs. 22, 26.

Mexico.

Quichuana dolorosa Hull

1946. *Quichuana dolorosa* Hull, Amer. Mus. Novit. 1317:6.

Bolivia: Mapiri.

Quichuana hermosa Hull

1951. *Quichuana hermosa* Hull, Jour. New York Ent. Soc. 59:67.

Peru: Chanchamayo.

Quichuana inca Shannon

1925. *Quichuana inca* Shannon, Proc. Ent. Soc. Wash. 27:111.
1946. *Quichuana inca brevicera* Hull, Amer. Mus. Novit. 1317:7.

Colombia; Peru.

Quichuana knabi Shannon

1927. *Quichuana knabi* Shannon, Proc. U. S. Nat. Mus. 70:15.
1946. *Quichuana knabi* Hull, Amer. Novit. 1317:8, figs. 9, 15, 22.

Bolivia: Beni, Cavinas.

Quichuana montana Hull

1951. *Quichuana montana* Hull, Jour. New York Ent. Soc. 59:65.

Peru: Chanchamayo.

Quichuana niger (Giglio-Tos)

1892. *Platynochaetus niger* Giglio-Tos, Boll. Mus. Zool. Torino 7:6.
1892. *Platynochaetus niger* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:20, fig.
1905. *Platynochaetus niger* Aldrich, Cat. Dipt. 392.
1927. *Quichuana niger* Shannon, Proc. U. S. Nat. Mus. 70:15.
1946. *Quichuana niger* Hull, Amer. Mus. Novit. 1317:11.

Mexico: Orizaba.

Quichuana nigra Hull

1949. *Quichuana nigra* Hull, Psyche 56:133.

Peru: Pucallpa.

Quichuana parisii Ceresa

1934. *Quichuana parisii* Ceresa, Atti. Soc. Ital. Sci. Nat. 73:389, fig. 4.
1946. *Quichuana parisii* Hull, Amer. Mus. Novit. 1317:10.

Brazil: São Sebastião, São Paulo.

Quichuana picadoi Knab

1913. *Quichuana picadoi* Knab, Ins. Insci. Mens. 1:14.
1946. *Quichuana picadoi* Hull, Mus. Novit. 1317:8, figs. 12, 17, 25.

Costa Rica; Colombia.

Quinchuana pogonosa Fluke

1937. *Quichuana pogonosa* Fluke, Amer. Mus. Novit. 941:11.
1946. *Quichuana pogonosa* Hull, Amer. Mus. Novit. 1317:7, fig. 8.

Brazil: Nova Teutônia, Rio Grande do Sul.

Quichuana quixotea Hull

1946. *Quichuana quixotea* Hull, Amer. Mus. Novit. 1317:14, fig. 6.

Colombia.

Quichuana rieseli Shannon

1927. *Quichuana rieseli* Shannon, Rev. Soc. Ent. Argentina 1:5.
1946. *Quichuana rieseli* Hull, Amer. Mus. Novit. 1317:12.

Argentina: Tucumán.

Quichuana sepiapennis (Hull)

1943. *Quihuana sepiapennis* Hull, Rev. de Ent. 14:510.
1946. *Quichuana sepiapennis* Hull, Amer. Mus. Novit. 1317:7, figs. 1, 5.

Panama (Hull Coll.).

Quichuana simonetta Hull

1946. *Quichuana simonetta* Hull, Amer. Mus. Novit. 1317:5, figs. 3, 7.

Peru: Huanoabama.

Quichuana subcostalis (Walker)

1860. *Xylota subcostalis* Walker, Trans. Ent. Soc. London, N. S. 5:291.
1946. *Quichuana subcostalis* Hull, Amer. Mus. Novit. 1317:7, figs. 20, 28.

Mexico.

Quichuana sylvicola Knab

1913. *Quichuana sylvicola* Knab, Ins. Insci. Mens. 1:14.
1946. *Quichuana sylvicola* Hull, Amer. Mus. Novit. 1317:8, figs. 10, 23.

Peru.

Quichuana ursula Hull

1949. *Quichuana ursula* Hull, Psyche 56:136.

Peru: Pucallpa.

Genus *CRIORTHRIX* Hull

1949. *Criorthrix* Hull, Trans. Zool. Soc. London 26:391 (type *rectilinea* Hull).

Region neotropical.

Criorthrix magnifica (Bigot)

1880. *Plagiocera? magnifica* Bigot, Ann. Soc. Ent. France: 85.
1883. *Lejops magnifica* Bigot, Ann. Soc. Ent. France: 225.
1886. *?Mallota magnifica* Williston, Trans. Amer. Ent. Soc. 13:320.
1949. *Criorthrix magnifica* Hull, Trans. Zool. Soc. London 26:392.

Colombia.

Criorthrix rectilinea (Hull)

1942. *Habromyia rectilinea* Hull, Psyche 49:19.
1949. *Criorthrix rectilinea* Hull, Trans. Zool. Soc. London 26:392.

Bolivia: Rio Songo.

Genus HABROMYIA Williston

1888. *Habromyia* Williston, Trans. Amer. Ent. Soc. Phil. 15:284. (type *coeruleithorax* Williston).
1927. *Habromyia* Shannon, Proc. U. S. Nat. Mus. 70:15.
1934. *Habromyia* Curran, Bul. Amer. Mus. Nat. Hist. 66:406.
1949. *Habromyia* Hull, Trans. Zool. Soc. London 26:393.

Region neotropical.

Habromyia barbiellinii (Ceresa)

1934. *Quichuana barbiellinii* Ceresa, Atti Soc. Ital. Sci. Nat. 73:383, figs. 1, 2.
1946. *Habromyia barbiellinii* Hull, Amer. Mus. Novit. 1317:14.

Brazil: São Sebastião, São Paulo.

Habromyia coeruleithorax Williston

1888. *Habromyia coeruleithorax* Williston, Trans. Amer. Ent. Soc. 15:284.
1927. *Habromyia coeruleithorax* Shannon, Proc. U. S. Nat. Mus. 70:15.

Brazil: Chapada.

Habromyia flavifacies Shannon

1927. *Habromyia flavifacies* Shannon, Proc. U. S. Nat. Mus. 70:15.

Amazons.

Habromyia floccula Hull

1944. *Habromyia floccula* Hull, Rev. de Ent. 15:47.

Peru: Matucana.

Habromyia langi Curran

1934. *Habromyia langi* Curran, Bul. Amer. Mus. Nat. Hist. 66:406.

Br. Guiana.

Habromyia lipoflava Fluke

1937. *Habromyia lipoflava* Fluke, Amer. Mus. Novit. 941:13.

Peru (Amer. Museum).

Habromyia xylotaeformis (Schiner)

1868. *Mallota xylotaeformis* Schiner, Reise Novara, Dipt. 360.
1886. *Mallota xylotaeformis* Williston, Trans. Amer. Ent. Soc. 13:320.
1933. *Mallota? xylotaeformis* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:122.
1934. *Habromyia xylotaeformis* Curran, Bul. Amer. Mus. Nat. Hist. 66:406.

Chile.

Genus *MALLOTA* Meigen

1822. *Mallota* Meigen, Syst. Beschr. 3:377 (type *fuciformis* Fabricius).
1842. *Imatisma* Macquart, Dipt. Nouveau 2:67.
1862. *Mallota* Schiner, Fauna Austr. 1:342.
1886. *Mallota* Williston, U. S. Nat. Mus. Bul. 31:201.
1901. *Mallota* Verrall, Brit. Flies, Syrph.: 551.
1905. *Mallota* Aldrich, Cat. Dipt. 394.
1930. *Mallota* Curran, Bul. Amer. Mus. Nat. Hist. 61:74.
1940. *Mallota* Curran, Amer. Mus. Novit. 1086:12.
1949. *Mallota* Hull, Trans. Zool. Soc. London 26:393.

Regions: nearctic and neotropical.

Mallota aberrans Shannon

1927. *Mallota aberrans* Shannon, Proc. U. S. Nat. Mus. 70:17.

Peru: Paltaybamba.

Mallota apimima Hull

1944. *Mallota apimima* Hull, Jour. Wash. Acad. Sci. 34:402.

Venezuela (Vienna Nat. Museum).

Mallota inversa Shannon

1927. *Mallota inversa* Shannon, Proc. U. S. Nat. Mus. 70:16.

Peru: Piches, Perene, Chanchamayo.

Mallota margarita Williston

1892. *Mallota margarita* Williston, Biol. Centr. Amer., Dipt. 3:70, tab. 2, fig. 7.
1905. *Mallota margarita* Aldrich, Cat. Dipt. 395.

Mexico: Xucumanatlan, Omilteme.

Mallota mystacia Fluke

1939. *Mallota mystacia* Fluke, Ann. Ent. Soc. Amer. 32:372, fig.

Panama (Amer. Museum).

Mallota nigra Shannon

1927. *Mallota nigra* Shannon, Proc. U. S. Nat. Mus. 70:16.

Ecuador: Santa Inez.

Mallota rubicunda Curran

1940. *Mallota rubicunda* Curran, Amer. Mus. Novit. 1086:13.

Ecuador: Mt. Tungurahua.

Mallota sackeni Osten Sacken

1877. *Mallota posticata* Osten Sacken (not Fabricius), West. Dipt. 3:338.
1882. *Mallota sackeni* Williston, Proc. Amer. Phil. Soc. 20:324.
1886. *Mallota sackeni* Williston, U. S. Nat. Mus. Bul. 31:204, tab. 8, fig. 14.
1896. *Mallota sackeni* Hunter, Can. Ent. 28:100.
1905. *Mallota sackeni* Aldrich, Cat. Dipt. 395.
1921. *Mallota columbiae* Curran, Can. Ent. 53:15.
1930. *Mallota sackeni* Curran, Bul. Amer. Mus. Nat. Hist. 61:74.

North America; Mexico.

Mallota salti Curran

1929. *Mallota salti* Curran, Ann. Ent. Soc. Amer. 22:499.

Colombia: Vista Nieve, Santa Marta.

Mallota smithi Williston

1891. *Mallota smithi* Williston, Biol. Centr. Amer., Dipt. 3:70, tab. 2, fig. 8.
1905. *Mallota smithi* Aldrich, Cat. Dipt. 395.

Mexico: Omilteme.

Genus *ERISTALIS* Latreille

1805. *Eristalis* Latreille, Hist. Nat. Crust. et Ins. 14:363 (type *tenax* Linneaus).
1822. *Eristalis* Meigen, Syst. Beschr. Zweif. Ins. 3:381.
1841. *Eristalis* Neuman, Hist. Ins.: 226.

1857. *Eristalinus* and *Eristalomya* Rondani, Dipt. Ital. Prodr. 2:40.
1862. *Eristalis* Schiner, Fauna Austr. 1:332.
1882. *Doliosyrphus* Bigot, Bul. Ent. Soc. France 13.
1886. *Eristalis* Williston, U. S. Nat. Mus. Bul. 31:158.
1891. *Eristalis* Arribálzaga, An. Soc. Cient. Argentina 32:104.
1891. *Eristalis* Williston, Biol. Centr. Amer., Dipt. 3:56.
1897. *Eristalis* Mik, Wien. Ent. Zeit. 16:113.
1901. *Eristalis* Verrall, Brit. Flies, Syrph. 8:493.
1905. *Eristalis* Aldrich, Cat. Dipt. 384.
1910. *Eristalis* Kertèsz, Cat. Dipt. 208.
1914. *Eristalis* Hine, Ohio Nat. 14:340.
1925. *Eristalis* Hull, Ohio Jour. Sci. 11 and 285.
1928. *Eristalis* Curran, N. Y. Acad. Sci. 11:42.
1930. *Eristalis* Curran, Amer. Mus. Novit. 411:3.
1933. *Eristalis* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:159.
1934. *Eristalis* Curran, Bul. Amer. Mus. Nat. Hist. 66:407.
1945. *Tubifera* Goffe, Ent. Mont. Mag. 81:246 (See Goffe (1945, ibid) for a full discussion of Meigen's 1800 names).
1949. *Eristalis* Hull, Trans. Zool. Soc. London 26:395.

Region worldwide.

Eristalis aemulus Williston

1891. *Eristalis aemulus* Williston, Biol. Centr. Amer., Dipt. 3:64, tab. 2, fig. 5.
1905. *Eristalis aemulus* Aldrich, Cat. Dipt. 384.
1925. *Eristalis aemulus* Hull, Ohio Jour. Sci. 25:288, figs.

Mexico: Rincon, Rio Papagaio; Panama: Bugaba; Guatemala; Br. Guiana: Bartica.

Eristalis agrorum Fabricius

1787. *Syrphus agrorum* Fabricius, Mant. Insect. 2:335.
1794. *Syrphus agrorum* Fabricius, Ent. Syst. 4:285.
1805. *Eristalis agrorum* Fabricius, Syst. Antl.: 235.
1830. *Eristalis agrorum* Wiedemann, Ausser. Zweif. Ins. 2:172.
1842. *Eristalis cubensis* Macquart, Dipt. Exot. 2, 2:42.
1856. *Eristalis cubensis* Bigot, in Sagra, Hist. Isla de Cuba 7:337.
1888. *Eristalis agrorum* Williston, Trans. Amer. Ent. Soc. 15:280.
1891. *Eristalis agrorum* Arribálzaga, An. Soc. Cient. Argentina 32:118.
1925. *Eristalis cubensis* Hull, Ohio Jour. Sci. 25:38.
1925. *Eristalis agrorum* Hull, Ohio Jour. Sci. 25:289, pl. 1, fig. 3.
1928. *Eristalis cubensis* Curran, Sci. Surv., Puerto Rico Virgin Islands 11:43.
1930. *Eristalis agrorum* Curran, Amer. Mus. Novit. 411:17.
1949. *Tubifera agrorum* Bean, Can. Ent. 81:143, fig. 4.

West Indies; Brazil: Chapada; Argentina: Tucumán, Jujuy, Formosa, Pte. Peron, Santa Fé, Entre Ríos (Paraná), Córdoba; Paraguay.

Eristalis albifrons Wiedemann

1830. *Eristalis albifrons* Wiedemann, Ausser. Zweif. 2:189.

1842. *Eristalis atbiceps* Macquart, Dipt. Exot. 2, 2:56.
1865. *Eristalis seniculus* Loew, Berl. Ent. Zeitschr. 6:168.
1878. *Eristalis albiceps* Osten Sacken, Cat. Dipt. 131.
1885. *Eristalis albifrons* Röder, Stett. Ent. Zeit. 46:340.
1886. *Eristalis albiceps* Williston, U. S. Nat. Mus. Bul. 31:172.
1888. *Eristalis albifrons* Williston, Trans. Amer. Ent. Soc. 15:283.
1891. *Eristalis albifrons* Williston, Biol. Centr. Amer., Dipt. 3:62.
1905. *Eristalis albifrons* Aldrich, Cat. Dipt. 384.
1925. *Eristalis albifrons* Hull, Ohio Jour. Sci. 25:35, pl. 1, fig. 7.
1949. *Tubifera albifrons* Bean, Can. Ent. 81:144, fig. 3.

West Indies; Brazil; Mexico; Guatemala.

Eristalis albiventris (Bigot)

1880. *Eristalomyia albiventris* Bigot, Ann. Soc. Ent. France: 228.
1891. *Eristalis albiventris* Arribálzaga, An. Soc. Cient. Argentina 32:110.

Uruguay.

Eristalis amazon Curran

1930. *Eristalis amazon* Curran, Amer. Mus. Novit. 411:23.

Brazil: Rio Caiary-Uaupes; Venezuela: Mt. Duida.

Eristalis antiopa Hull

1942. *Eristalis antiopa* Hull, Psyche 49:87.

Paraguay: Villarica.

Eristalis argyropila Hull

1938. *Eristalis argyropila* Hull, Ann. Carnegie Museum 27:121, pl. 8, fig. 10.

Fr. Guiana: Mana River.

Eristalis assimilis Macquart

1846. *Eristalis assimilis* Macquart, Dipt. Exot. 1 Suppl.: 129.
1868. *Eristalis assimilis* Schiner, Reise Novara, Dipt. 361.
1925. *Eristalis assimilis* Hull, Ohio Jour. Sci. 25:308, pl. 1, fig. 7; pl. 2, fig. 12.

Colombia; Peru: Arequipa; Bolivia; Argentina: Mendoza (Uspallata), La Rioja, Tucumán (Tafi del Valle), Tierra del Fuego.

Eristalis atrimanus Loew

1865. *Eristalis atrimanus* Loew, Berl. Ent. Zeitsch. 6:62.
1869. *Eristalis atrimanus* Loew, Berl. Ent. Zeitsch. 9:167.
1886. *Eristalis atrimanus* Williston, U. S. Nat. Mus. Bul. 31:173.
1905. *Eristalis atrimanus* Aldrich, Cat. Dipt. 384.
1925. *Eristalis atrimanus* Hull, Ohio Jour. Sci. 25:37.
1930. *Eristalis atrimanus* Curran, Amer. Mus. Novit. 411:16.

Cuba: Boniato; Puerto Rico: San Domingo; Jamaica: Kingston.

Eristalis atropos Giglio-Tos

1892. *Eristalis atropos* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:14, fig.
1905. *Eristalis atropos* Aldrich, Cat. Dipt. 384.

Mexico.

Eristalis aztecus Hull

1935. *Eristalis aztecus* Hull, Jour. Wash. Acad. Sci. 25:326, figs. 5, 7, 8.

Mexico: Real del Monte.

Eristalis bequaerti Hull

1942. *Eristalis bequaerti* Hull, Psyche 49:84.

Paraguay: Villarica.

Eristalis bistellatus Hull

1935. *Eristalis bistellatus* Hull, Jour. Wash. Acad. Sci. 25:328, figs. 1 and 6.

Peru: Piches, Perene.

Eristalis bogotensis Macquart

1842. *Eristalis bogotensis* Macquart, Dipt. Exot. 2, 2:52.
1867. *Eristalis bellardii* Jaennicke, Neue Exot. Dipt. 92.
1880. *Eristalomyia rufoscutata* Bigot, Ann. Soc. Ent. France: 221.
1882. *Eristalis bogotensis* Wulp, Tijd. v. Ent. 25:129.
1882. *Eristalis bogotensis* Wulp, Tijd. v. Ent. 26:79.
1891. *Eristalis bogotensis* Arribálzaga, An. Soc. Cient. Argentina 32:253.
1891. *Eristalis bellardii* Williston, Biol. Centr. Amer., Dipt. 3:60.
1892. *Eristalis bogotensis* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:4.
1905. *Eristalis bogotensis* Aldrich, Cat. Dipt. 385.
1925. *Eristalis bogotensis* Hull, Ohio Jour. Sci. 25:308, pl. 2, fig. 15.
1933. *Eristalis bogotensis* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:162.

Argentina: Uspallata en Mendoza; Colombia; Bogotá; Peru: Puno; Bolivia: La Paz; Mexico.

Eristalis brevivillosa Hull

1937. *Eristalis brevivillosa,* Hull, Jour. Wash. Acad. Sci. 27:173, figs. 2 and 4.

Peru: Lima.

Eristalis chilensis Philippi

1865. *Eristalis chilensis* Philippi, Verh. Zool.-Bot. Ges. Wien 15:743.
1933. *Eristalis chilensis* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:122.

Chile.

Eristalis circe Williston

1891. *Eristalis circe* Williston, Biol. Centr. Amer., Dipt. 3: 59, tab. 2, fig. 3.
1892. *Eristalis bombusoides* Giglio-Tos, Boll. Mus. Zool. Torino 7:4.
1892. *Eristalis circe* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:3.
1905. *Eristalis circe* Aldrich, Cat. Dipt. 385.
1925. *Eristalis circe* Hull, Ohio Jour. Sci. 25:25.
1935. *Eristalis circe* Hull, Jour. Wash. Acad. Sci. 25:327, fig. 2.

Mexico: Ciudad, Omilteme, Jalapa, Oaxaca, Guerrero, Mexico City.

Eristalis claripennis Hull

1949. *Eristalis claripennis* Hull, Psyche 56:123.

Peru: Huanuco.

Eristalis clarissimus Giglio-Tos

1892. *Eristalis clarissimus* Giglio-Tos, Boll. Mus. Zool. Torino 7:5.
1892. *Eristalis clarissimus* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:11.
1905. *Eristalis clarissimus* Aldrich, Cat. Dipt. 385.

Mexico.

Eristalis claudia Curran

1930. *Eristalis claudia* Curran, Amer. Mus. Novit. 411:18.

Canal Zone: Barro Colorado Island.

Eristalis concolor Philippi

1865. *Eristalis concolor* Philippi, Verh. Zool.-Bot. Ges. Wien 15:743.
1933. *Eristalis concolor* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:122.

Chile.

Eristalis congruus Wulp

1888. *Eristalis congruus* Wulp, Tijd. v. Ent. 31:371.
1891. *Eristalis congruus* Arribálzaga, An. Soc. Cient. Argentina 32:109.

Argentina.

Eristalis conicus (Fabricius)

1805. *Milesia conica* Fabricius, Syst. Ant.: 190.
1830. *Eristalis conicus* Wiedemann, Ausser. Zweif. Ins. 2:650.
1834. *Palpada scutellata* Macquart, Hist. Nat. Dipt. Suites Buffon 1:513.
1868. *Eristalis conicus* Schiner, Reise Novara, Dipt. 364.
1886. *Eristalis conicus* Williston, Trans. Amer. Ent. Soc. 13:318.
1888. *Eristalis conicus* Williston, Trans. Amer. Ent. Soc. 15:279.
1925. *Eristalis conicus* Hull, Ohio Jour. Sci. 25:290, tab. 1, fig. 6.
1927. *Eristalis conicus* Curran, Rec. & Descr. of Dipt., App.: 23.
1934. *Eristalis conicus* Curran, Bul. Amer. Mus. Nat. Hist. 66:415.

Brazil: Rio de Janeiro, Chapada; Br. Guiana: Bartica, Kartabo; Colombia: Rio Frio; Guatemala: Livingston.

Eristalis cora Hull

1949. *Eristalis cora* Hull, Psyche 56:121.

Brazil: Nova Teutônia.

Eristalis cosmius Schiner

1868. *Eristalis cosmius* Schiner, Reise Novara, Dipt. 362.
?1891. *Eristalis cosmius* Williston, Biol. Centr. Amer., Dipt. 3:61.
1905. *Eristalis cosmium* Aldrich, Cat. Dipt. 385.
1934. *Eristalis cosmius* Curran, Bul. Amer. Mus. Nat. Hist. 66:407.

Mexico: Jalapa; South America; Argentina: Villa Nouges en Tucumán.

Eristalis croceimaculata Jacobs

1900. *Eristalis croceimaculata* Jacobs, Ann. Soc. Ent. Belg. 44:107.
1906. *Eristalis croceimaculata* Jacobs, Result. Belgica, Zool. Ins. 69, fig.
1933. *Eristalis croceimaculata* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:122.

Argentina.

Eristalis cyatheus Hull

1925. *Eristalis cyatheus* Hull, Ohio Jour. Sci. 25:287, pl. 1, fig. 9; pl. 2, fig. 13.

Brazil: São Sebastião; Argentina: Tucumán (Monte Bello).

Eristalis diabilis Hull

1935. *Eristalis diabilis* Hull, Jour. Wash. Acad. Sci. 25:330, figs. 3, ♂.

Mexico: Tacubaya, Mexico City.

Eristalis diminutus Walker

1849. *Eristalis diminutus* Walker, List, etc. 3:622.
1905. *Eristalis diminutus* Aldrich, Cat. Dipt. 385.

Mexico.

Eristalis distinguendus Wiedemann

1830. *Eristalis distinguendus* Wiedemann, Ausser. Zweif. Ins. 2:191 (male).
1830. *Eristalis xanthaspis* Wiedemann, Ausser. Zweif. Ins. 2:191. (female).
1868. *Eristalis distinguendus* Schiner, Reise Novara, Dipt. 361.
1891. *Eristalis distinguendus* Arribálzaga, An. Soc. Cient. Argentina 32:113.
1930. *Eristalis distinguendus* Curran, Amer. Mus. Novit. 411:8.

Argentina; Paraguay; Uruguay.

Eristalis doris Curran

1930. *Eristalis doris* Curran, Amer. Mus. Novit. 411:20.

Brazil: Chapada, Rio de Janeiro.

Eristalis dorothea Hull

1942. *Eristalis dorothea* Hull, Psyche 49:88.

Paraguay: Villarica.

Eristalis elegans Blanchard

1852. *Eristalis elegans* Blanchard, Gay's Hist. polit. Chile, Zool. 7:406.
1868. *Eristalis philippii* Schiner, Reise Novara, Dipt. 363.
1925. *Eristalis philippii* Hull, Ohio Jour. Sci. 25:26, fig.
1933. *Eristalis elegans* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:162.
1938. *Eristalis elegans* Curran, Amer. Mus. Novit. 975:3.

Argentina: Neuquén; Chile.

Eristalis erraticus Curran

1930. *Eristalis erraticus* Curran, Amer. Mus. Novit. 411:19.

Brazil: Venezuela; Colombia; Canal Zone.

Eristalis everes Walker

1852. *Eristalis? everes* Walker, Ins. Saunders, Dipt. 1:246.
1886. *Eristalis everes* Williston, U. S. Nat. Mus. Bul. 31:178.
1905. *Eristalis everes* Aldrich, Cat. Dipt. 386.
1910. *Eristalis bogotensis* Kertèsz, Cat. Dipt. 214.

South America.

Eristalis expictus Walker

1858. *Eristalis expictus* Walker, Trans. Ent. Soc. London (N. S.) 5:291.
1905. *Eristalis expictus* Aldrich, Cat. Dipt. 386.

Mexico.

Eristalis familiaris Walker

1858. *Eristalis familiaris* Walker, Trans. Ent. Soc. London (N. S.) 5:290.
1905. *Eristalis familiaris* Aldrich, Cat. Dipt. 386.

Mexico.

Eristalis fasciatus Wiedemann

1819. *Eristalis fasciatus* Wiedemann, Zool. Mag. 3:51.
1830. *Eristalis fasciatus* Wiedemann, Ausser. Zweif. Ins. 2:173.
1842. *Eristalis fasciatus* Macquart, Dipt. Exot. 2, 2:57.
1848. *Eristalis fasciatus* Rondani, Studi Ent.: 68.
1855. *Eristalis bifasciatus* Macquart, Dipt. Exot. 5 Suppl. 87.
1891. *Eristalis fasciatus* Williston, Biol. Centr. Amer., Dipt. 3:62.
1925. *Eristalis fasciatus* Hull, Ohio Jour. Sci. 25:34, pl. 1, fig. 6; pl. 2, fig. 15.
1930. *Eristalis fasciatus* Curran, Amer. Mus. Novit. 411:16.
1934. *Eristalis fasciatus* Curran, Bul. Amer. Mus. Nat. Hist. 66:414.

Br. Guiana; Guatemala; Venezuela: Brazil; Mexico.

Eristalis fasciculata Curran

1938. *Eristalis fasciculata* Curran, Amer. Mus. Novit. 975:2.

Brazil: São Paulo; Argentina: Neuquén, Tucumán (El Molle, Carapunco, 3-4000 m).

Eristalis flavoscutellata Hull

1937. *Eristalis flavoscutellata* Hull, Jour. Wash. Acad. Sci. 27:173, fig. 1, 7.

Costa Rica: Hiquito, San Mateo.

Eristalis floreus Hull

1925. *Eristalis floreus* Hull, Ohio Jour. Sci. 25:39, pl. 1, fig. 3.
1934. *Eristalis floreus* Curran, Bul. Amer. Mus. Nat. Hist. 66:414.

Br. Guiana: Arakaba, Bartica, Kartabo.

Eristalis fuliginosus Hull

1935. *Eristalis fuliginosus* Hull, Jour. Wash. Acad. Sci. 25:327, figs. 4, 9, 10, 12.

Costa Rica: Atenas.

Eristalis fulvipes (Bigot)

1880. *Eristalomyia fulvipes* Bigot, Ann. Soc. Ent. France: 225.
1905. *Eristalis fulvipes* Aldrich, Cat. Dipt. 386.

Mexico.

Eristalis furcatus Wiedemann

1819. *Eristalis furcatus* Wiedemann, Zool. Mag. 1:51.
1830. *Eristalis furcatus* Wiedemann, Ausser. Zweif. Ins. 2:176.
1842. *Eristalis femoratus* Macquart, Dipt. Exot. 2, 2:40.
1849. *Merodon tenebrica* Walker, List, etc. 3:601.
1852. *Eristalis floridus* Walker, Ins. Saunders, Dipt. 1:245.
1868. *Eristalis furcatus* Schiner, Reise Novara, Dipt. 362.
1883. *Eristalis furcatus* Wulp, Tijd. v. Ent. 25:131.
1888. *Eristalis furcatus* Williston, Trans. Amer. Ent. Soc. 15:279.
1891. *Eristalis furcatus* Arribálzaga, An. Soc. Cient. Argentina 32:111.
1892. *Eristalis furcatus* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:15.
1905. *Eristalis furcatus* Aldrich, Cat. Dipt. 386.
1925. *Eristalis furcatus* Hull, Ohio Jour. Sci. 25:29, tab. 2, figs. 11, 20.
1930. *Eristalis furcatus* Curran, Amer. Mus. Novit. 411:11.
1933. *Eristalis furcatus* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:161.

Brazil; Colombia; Argentina; Mexico; Guatemala.

Eristalis geniculata Fabricius

1805. *Eristalis geniculata* Fabricius, Syst. Antl.: 237.
1830. *Eristalis geniculata* Wiedemann, Ausser. Zweif. Ins. 2:170.

South America.

Eristalis geniculatus (Bigot)

1883. *Doliosyrphus geniculatus* Bigot, Ann. Soc. Ent. France: 343.
1891. *Priomerus geniculatus* Arribálzaga, An. Soc. Cient. Argentina 32:103.

Argentina.

Eristalis glabella Hull

1942. *Eristalis glabella* Hull, Psyche 49:85.

Canal Zone: Summit.

Eristalis guadalupensis Macquart

1842. *Eristalis guadalupensis* Macquart, Dipt. Exot. 2, 2:32.
1905. *Eristalis guadalupensis* Aldrich, Cat. Dipt. 386.

Guadeloupe.

Eristalis gundlachi Loew

1865. *Eristalis gundlachi* Loew, Berl. Ent. Zeitsch. 6:61.
1905. *Eristalis gundlachi* Aldrich, Cat. Dipt. 386.

Cuba.

Eristalis hortorum (Fabricius)

1775. *Syrphus hortorum* Fabricius, Syst. Ent.: 764.
1776. *Musca surinamensis* DeGeer, Mem. Hist. Ins. 6:145, pl. 29, fig. 1.

1794. *Syrphus hortorum* Fabricius, Syst. 286.
1805. *Eristalis hortorum* Fabricius, Syst. Antl. 236.
1830. *Eristalis hortorum* Wiedemann, Ausser. Zweif. Ins. 2:169.
1886. *Eristalis hortorum* Williston, U. S. Nat. Mus. Bul. 31:173, pl. 7, fig. 10.
1905. *Eristalis hortorum* Aldrich, Cat. Dipt. 386.
1925. *Eristalis hortorum* Hull, Ohio Jour. Sci. 25:41, pl. 1, fig. 8.
1930. *Eristalis hortorum* Curran, Amer. Mus. Novit. 411:23.

Puerto Rico; West Indies; St. Thomas.

Eristalis incubus Hull

1943. *Eristalis incubus* Hull, Ent. News 54:29.

Brazil: Curitiba, Paraná.

Eristalis langi Curran

1934. *Eristalis langi* Curran, Bul. Amer. Mus. Nat. Hist. 66:411.

Br. Guiana: Kamakusa, Kartabo; Brazil: Chapada.

Eristalis lateralis Walker

1837. *Eristalis lateralis* Walker, Trans. Linn. Soc. London 17:347.
1849. *Eristalis lateralis* Walker, List, etc. 3:622.
1863. *Eristalomyia chilena* Rondani, Archiv. Zool. 3:5.
1886. *Eristalis lateralis* Williston, U. S. Nat. Mus. Bul. 31:178.
1891. *Eristalis lateralis* Arribálzaga, An. Soc. Cient. Argentina 32:111.
1905. *Eristalis lateralis* Aldrich, Cat. Dipt. 386.
1933. *Eristalis lateralis* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:162.

Argentina; Brazil; Chile; Guiana; Mexico; Jamaica.

Eristalis latifrons Loew

1865. *Eristalis latifrons* Loew, Berl. Ent. Zeit. 6:65.
1877. *Eristalis stipator* Osten Sacken, West. Dipt.: 336.
1882. *Eristalis stipator* Williston, Proc. Amer. Phil. Soc. 20:319.
1886. *Eristalis latifrons* Williston, U. S. Nat. Mus. Bul. 31:164.
1892. *Eristalis latifrons* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:5.
1895. *Eristalis latifrons* Townsend, Trans. Amer. Ent. Soc. 22:49.
1905. *Eristalis latifrons* Aldrich, Cat. Dipt. 386.
1925. *Eristalis latifrons* Hull, Ohio Jour. Sci. 25:295.

Mexico: Amula, N. Sonora, Matamoros.

Eristalis meigenii Wiedemann

1830. *Eristalis meigenii* Wiedemann, Ausser. Zweif. Ins. 2:177.
1842. *Eristalis quadraticornis* Macquart, Dipt. Exot. 2, 2:51.
1850. *Eristalis testaceiscutellatus* Macquart, Dipt. Exot. 4:442.
1852. *Eristalis quadraticornis* Blanchard, Gay's Hist. polit. Chile, Zool. 7:406.

1852. *Eristalis testaceiscutellatus* Blanchard, Gay's Hist. polit. Chile Zool. 7:407.
1863. *Eristalomya quadraticornis* Rondani, Archiv. Zool. 3:6.
1869. *Eristalis foveifrons* Thomsen, Eugen. Resa, Dipt. 491.
1891. *Eristalis meigenii* Arribálzaga, An. Soc. Cient. Argentina 32:38.
1891. *Eristalis quadraticornis* Arribálzaga, An. Soc. Cient. Argentina 32:42.
1910. *Eristalis quadraticornis* Kertèsz, Cat. Dipt. 232.
1916. *Eristalis meigenii* Knab, Ins. Insci. Mens. 4:92.
1925. *Eristalis quadraticornis* Hull, Ohio Jour. Sci. 25:29.
1930. *Eristalis meigenii* Curran, Amer. Mus. Novit. 411:8.
1933. *Eristalis meigenii* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:161.

South America.

Eristalis melanaspis Wiedemann

1830. *Eristalis melanaspis* Wiedemann, Ausser. Zweif. Ins. 2:176.
1848. *Eristalis nigroscutellatus* Macquart, Dipt. Exot. 3:41.
1925. *Eristalis volaticus* Hull, Ohio Jour. Sci. 25:287.
1930. *Eristalis melanaspis* Curran, Amer. Mus. Novit. 411:18.
1933. *Eristalis melanaspis* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:161.

Brazil: Rio de Janeiro, Chapada, Corumba; Bolivia.

Eristalis mexicanus Macquart

1847. *Eristalis mexicanus* Macquart, Dipt. Exot. 2, 2:59.
1892. *Eristalis mexicanus* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:5
1905. *Eristalis mexicanus* Aldrich, Cat. Dipt. 387.

Mexico.

Eristalis minutalis Williston

1891. *Eristalis minutalis* Williston, Biol. Centr. Amer., Dipt. 3:64, tab. 2, fig. 6.
1905. *Eristalis minutalis* Aldrich, Cat. Dipt. 387.
1925. *Eristalis minutalis* Hull, Ohio Jour. Sci. 25:42.
1934. *Eristalis minutalis* Curran, Bul. Amer. Mus. Nat. Hist. 66:414.

Mexico: Teapa; Honduras: San Pedro; Br. Guiana: Kartabo.

Eristalis mirabilis Hull

1925. *Eristalis mirabilis* Hull, Ohio Jour. Sci. 25:305, pl. 2, fig. 11.
1934. *Eristalis mirabilis* Curran, Bul. Amer. Mus. Nat. Hist. 66:411.

Colombia: Vista Nieve, Arakaka.

Eristalis mitis Curran

1930. *Eristalis mitis* Curran, Amer. Mus. Novit. 411:11.

Canal Zone: Corozal.

Eristalis monticola Röder

1886. *Eristalis montana* Röder (not Williston), Stett. Ent. Zeit. 47:263.
1892. *Eristalis monticola* Röder, Dipt. Gesam. in Sud. Amer. V. A. Stubel, 9, fig.

Colombia.

Eristalis mus Curran

1888. *Eristalis agrorum* Williston (not Wiedemann), Trans. Amer. Ent. Soc. 15:280.
1925. *Eristalis agrorum* Hull, Ohio Jour. Sci. 25:289.
1930. *Eristalis mus* Curran, Amer. Mus. Novit. 411:21.

Brazil: Corumba, Chapada; Mexico: Yucatan; Argentina: Tucumán, Formasa, Rio Negro.

Eristalis nigripes Wiedemann

1830. *Eristalis nigripes* Wiedemann, Ausser. Zweif. Ins. 2:165.
1888. *Eristalis nigripes* Williston, Trans. Amer. Ent. Soc. 15:280.
1933. *Eristalis nigripes* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:160.

Brazil: Rio de Janeiro, Corumbá, Uarcarizal.

Eristalis obligus Curran

1940. *Eristalis obligus* Curran, Amer. Mus. Novit. 1086:14.

Br. Guiana: Mazaruni; Peru.

Eristalis obsoletus Wiedemann

1830. *Eristalis obsoletus* Wiedemann, Ausser. Zweif. Ins. 2:175.
1868. *Eristalis obsoletus* Schiner, Reise Novara, Dipt. 261.
1880. *Eristalomyia pachypoda* Bigot, Ann. Soc. Ent. France: 224.
1888. *Eristalis obsoletus* Williston, Trans. Amer. Ent. Soc. 15:279.
1891. *Eristalis obsoletus* Williston, Biol. Centr. Amer., Dipt. 3:59.
1891. *Eristalis pachypoda* Williston, Biol. Centr. Amer., Dipt. 3:60.
1891. *Eristalis obsoletus* Arribálzaga, An. Soc. Cient. Argentina 32:121 and 263.
1892. *Eristalis obsoletus* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:7.
1895. *Eristalis obsoletus* Townsend, Proc. Calif. Acad. Sci. 4:617.
1905. *Eristalis obsoletus* Aldrich, Cat. Dipt. 387.
1925. *Eristalis obsoletus* Hull, Ohio Jour. Sci. 25:306.
1930. *Eristalis obsoletus* Curran, Amer. Mus. Novit. 411:7.
1933. *Eristalis obsoletus* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:163.
1934. *Eristalis obsoletus* Curran, Bul. Amer. Mus. Nat. Hist. 66:411.
1949. *Tubifera obsoletus* Bean, Can. Ent. 81:146, fig. 9.

Neotropical region.

Eristalis ochraceus Williston

1888. *Eristalis ochraceus* Williston, Trans. Amer. Ent. Soc. 15:279.
1891. *Eristalis ochraceus* Williston, Biol. Centr. Amer., Dipt. 3:60.
1905. *Eristalis ochraceus* Aldrich, Cat. Dipt. 388.
1925. *Eristalis ochraceus* Hull, Ohio Jour. Sci. 25:27.
1934. *Eristalis alacris* Curran, Bul. Amer. Mus. Nat. Hist. 66:413.

Mexico: Teapa; Brazil: Chapada; Br. Guiana.

Eristalis ornatus Townsend

1897. *Eristalis ornatus* Townsend, Ann. Mag. Nat. Hist. 20:21.
1905. *Eristalis ornatus* Aldrich, Cat. Dipt. 388.
1925. *Eristalis ornatus* Hull, Ohio Jour. Sci. 25:26.

Mexico: Vera Cruz; California: San Rafael.

Eristalis parvulus Williston

1888. *Eristalis parvulus* Williston, Trans. Amer. Ent. Soc. 15:282.

Brazil: Chapada.

Eristalis penaltis Curran

1934. *Eristalis penaltis* Curran, Bul. Amer. Mus. Nat. Hist. 66:412.

Br. Guiana.

Eristalis persa Williston

1891. *Eristalis persa* Williston, Biol. Centr. Amer., Dipt. 3:58.
1905. *Eristalis persa* Aldrich, Cat. Dipt. 388.
1925. *Eristalis persa* Hull, Ohio Jour. Sci. 25:24.

Mexico: Guerrero, Sierra de las Aguas Escondidas.

Eristalis podagra Macquart

1842. *Eristalis podagra* Macquart, Dipt. Exot. 2, 2:38.
1888. *Eristalis podagra, surinamensis* and *bifasciatus* Williston, Trans. Amer. Ent. Soc. 15:281.

Brazil: Chapada, Rio de Janeiro.

Eristalis porteri Curran

1935. *Eristalis porteri* Curran, Amer. Mus. Novit. 812:8.

Chile: Valparaiso.

Eristalis precipuus Williston

1888. *Eristalis precipuus* Williston, Trans. Amer. Ent. Soc. 15:280.
1921. *Eristalis precipuus* Sack, Archiv. Naturg. 87:142.
1925. *Eristalis precipuus* Hull, Ohio Jour. Sci. 25:286, pl. 1, fig. 8.
1933. *Eristalis precipuus* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:160.

Brazil: São Paulo, Chapada; Argentina: Formosa, Pte. Peron

Eristalis pusillus Macquart

1842. *Eristalis pusillus* Macquart, Dipt. Exot. 2, 2:54.
1867. *Eristalis tricolor* Jaennicke, Abh. Senck. Natur. Ges. 6:400.
1891. *Eristalis tricolor* Williston, Biol. Centr. Amer., Dipt. 3:62.
1892. *Eristalis pusillus* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:10.
1895. *Eristalis tricolor* Townsend, Trans. Amer. Ent. Soc. 22:50.
1895. *Eristalis tricolor* Townsend, Proc. Calif. Acad. Sci. 4:617.
1897. *Eristalis tricolor* Townsend, Jour. N. Y. Ent. Soc. 5:175.
1905. *Eristalis pusillus* Aldrich, Cat. Dipt. 388.
1912. *Eristalis tricolor* Townsend, Can. Ent. 44:293.
1925. *Eristalis pusillus* Hull, Ohio Jour. Sci. 25:36, pl. 1, fig. 2; pl. 2, fig. 17.
1934. *Eristalis pusillus* Curran, Bul. Amer. Mus. Nat. Hist. 66:415.
1949. *Tubifera pusillus* Bean, Can. Ent. 81:144, fig. 2.

Guatemala; Cuba; Mexico; Argentina: Pte. Perón, Formosa, Tucumán.

Eristalis pusio Wiedemann

1830. *Eristalis pusio* Wiedemann, Ausser. Zweif. Ins. 2:192.
1885. *Eristalis pusio* Röder, Stett. Ent. Zeit. 341.
1886. *Eristalis pusio* Williston, U. S. Nat. Mus. Bul. 31:178.
1891. *Eristalis pusio* Arribálzaga, An. Soc. Cient. Argentina 32:123.
1905. *Eristalis pusio* Aldrich, Cat. Dipt. 388.
1930. *Eristalis pusio* Curran, Amer. Mus. Novit. 411:14.

Brazil; Puerto Rico; Argentina.

Eristalis pusioides Hull

1951. *Eristalis pusioides* Hull, Jour. N. Y. Ent. Soc. 59:68.

Peru: Chanchamayo.

Eristalis pygolampus Wiedemann

1830. *Eristalis pygolampus* Wiedemann, Ausser. Zweif. Ins. 2:161.
1842. *Eristalis pygolampus* Macquart, Mem. Soc. Sci. Lille 2:37.
1868. *Eristalis pygolampus* Schiner, Reise Novara, Dipt. 364.
1882. *Eristalis pygolampus* Wulp, Tijd. v. Ent. 26:126.
1888. *Eristalis pygolampus* Williston, Trans. Amer. Ent. Soc. 15:278.
1891. *Eristalis pygolampus* Arribálzaga, An. Soc. Cient. Argentina 32:120.
1921. *Eristalis pygolampus* Sack, Archiv. Naturg. 87:142.
1925. *Eristalis pygolampus* Hull, Ohio Jour. Sci. 25:304.

Argentina: Tucumán; Paraguay; Brazil; Br. Guiana.

Eristalis ruficeps Macquart

1842. *Eristalis ruficeps* Macquart, Mem. Soc. Sci. Lille 2:51.
1867. *Eristalis thoracica* Jaennicke, Abh. Senck. Natur. Ges. 6:399.
1868. *Megaspis ruficeps* Schiner, Reise Novara, Dipt. 365.
1891. *Eristalis obsoletus* as *thoracica* Williston, Biol. Centr. Amer., Dipt. 3:146.

1892. *Eristalis ruficeps* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:6.
1905. *Eristalis ruficeps* Aldrich, Cat. Dipt. 388.
1925. *Eristalis ruficeps* Hull, Ohio Jour. Sci. 25:307, pl. 2, fig. 10.

Mexico; Bolivia; Venezuela.

Eristalis rufipes Macquart

1842. *Eristalis rufipes* Macquart, Dipt. Exot. 2, 2:42.

Brazil.

Eristalis rufiventris Macquart

1845. *Eristalis rufiventris* Macquart, Dipt. Exot. 1 Suppl.: 129.
1888. *Eristalis rufiventris* Williston, Trans. Amer. Ent. Soc. 15:282.
1892. *Eristalis praeclarus* Giglio-Tos, Boll. Mus. Zool. Torino 7:5.
1892. *Eristalis rufiventris* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:11.
1905. *Eristalis rufiventris* Aldrich, Cat. Dipt. 388.
1925. *Eristalis rufiventris* Hull, Ohio Jour. Sci. 25:33, pl. 1, fig. 4.

Honduras; Guatemala; Brazil; Colombia; Mexico; Argentina: Pte. Perón, Formosa, Tucumán, Sta. Fé.

Eristalis rufoscutellatus Sack

1921. *Eristalis rufoscutellatus* Sack, Archiv. Naturg. 87:142, fig.

Paraguay.

Eristalis sackenis Bigot

1880. *Eristalis sackenis* Bigot, Ann. Soc. Ent. France: 224.
1905. *Eristalis sackenis* Aldrich, Cat. Dipt. 388.

Mexico.

Eristalis sallaei Giglio-Tos

1892. *Eristalis sallaei* Giglio-Tos, Boll. Mus. Zool. Torino 7:5.
1892. *Eristalis sallaei* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:12.
1905. *Eristalis sallaei* Aldrich, Cat. Dipt. 388.

Mexico.

Eristalis schistaceus Williston

1888. *Eristalis schistaceus* Williston, Trans. Amer. Ent. Soc. 15:282.

Brazil: Chapada.

Eristalis scopanthus Hull

1944. *Eristalis scopanthus* Hull, Rev. de Ent. 15:45.

Peru: Lima.

Eristalis scutellaris (Fabricius)

1805. *Milesia scutellaris* Fabricius, Syst. Antl.: 190.

1830. *Eristalis scutelaris* Wiedemann, Ausser. Zweif. Ins. 2:159.
1842. *Eristalis scutellatus* and *scutellaris* Macquart, Dipt. Exot. 2, 2:38.
1849. *Eristalis cyaneifera* Walker, List, etc. 3:621.
1851. *Eristalis fascithorax* Macquart, Dipt. Exot. 4 Suppl.: 139.
1868. *Eristalis scutellaris* Schiner, Reise Novara, Dipt. 364.
1883. *Priomerus scutellatus* Bigot, Ann. Soc. Ent. France: 222.
1883. *?Doliosyrphus scutellatus* Bigot, Ann. Soc. Ent. France: 342 (not Macquart).
1886. *Doliosyrphus rileyi* Williston, U. S. Nat. Mus. Bul. 31:178, tab. 8, fig. 8.
1888. *Eristalis scutellaris* Williston, Trans. Amer. Ent. Soc. 15:279.
1891. *Eristalis scutellaris* Williston, Biol. Centr. Amer., Dipt. 3:63.
1891. *Priomerus scutellaris* Arribálzaga, An. Soc. Cient. Argentina 32:101, 261.
1892. *Eristalis scutellaris* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:12.
1892. *Eristalis scutellaris* Williston, Ent. News 3:146.
1905. *Doliosyrphus scutellatus* Aldrich, Cat. Dipt. 383.
1905. *Eristalis scutellaris* Aldrich, Cat. Dipt. 388.
1910. *Eristalis scutellaris* Kertèsz, Cat. Dipt. 7:235.
1925. *Eristalis scutellaris* Hull, Ohio Jour. Sci. 25:291, pl. 2, figs. 16, 19.
1930. *Eristalis scutellaris* Curran, Amer. Mus. Novit. 411:17.
1934. *Eristalis scutellaris* Curran, Bul. Amer. Mus. Nat. Hist. 66:415.

Neotropical region.

Eristalis semicirculus Walker

1856. *Eristalis semicirculus* Walker, Dipt. Saund., 249.

Honduras.

Eristalis spectabilis Hull

1925. *Eristalis spectabilis* Hull, Ohio Jour. Sci. 25:289, pl. 1, fig. 2.
1925. *Eristalis aemulus* Hull (not Williston), Ohio Jour. Sci. 25:288.
1930. *Eristalis spectabilis* Curran, Amer. Mus. Novit. 411:23.
1934. *Eristalis spectabilis* Curran, Bul. Amer. Mus. Nat. Hist. 66:415.

Br. Guiana; Venezuela: Caura Val.

Eristalis stigmaticus Hull

1944. *Eristalis stigmaticus* Hull, Ann. Mag. Nat. Hist. (11) 11:45.

Colombia: Atrato Valley.

Eristalis sumichrasti Giglio-Tos

1892. *Eristalis sumichrasti* Giglio-Tos, Boll. Mus. Zool. Torino 7:1.
1892. *Eristalis sumichrasti* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:6.
1905. *Eristalis sumichrasti* Aldrich, Cat. Dipt. 389.

Mexico.

Eristalis surinamensis Macquart

1842. *Eristalis surinamensis* Macquart, Dipt. Exot. 2, 2:53.

Brazil.

Eristalis taenia Wiedemann

1830. *Eristalis taenia* Wiedemann, Ausser. Zweif. Ins. 2:174.
1868. *Eristalis taenia* Schiner, Reise Novara, Dipt. 371.
1888. *Eristalis taenia* Williston, Trans. Amer. Ent. Soc. 15:281.
1891. *Eristalis taenia* Arribálzaga, An. Soc. Cient. Argentina 32:112.
1925. *Eristalis taenia* Hull, Ohio Jour. Sci. 25:38.
1930. *Eristalis taenia* Curran, Amer. Mus. Novit. 411:13.
1933. *Eristalis taenia* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:161.

Brazil: São Paulo, Rio de Janeiro; Uruguay: Montevideo; Argentina: Pte. Perón, Formosa, Tucumán, Santa Fé, Córdoba.

Eristalis tatei Curran

1930. *Eristalis tatei* Curran, Amer. Mus. Novit. 411:9.

Venezuela: Mt. Duida.

Eristalis tenax (Linneaus)

1758. *Musca tenax* Linneaus, Syst. Natur. 591.
1763. *Conops vulgaris* and *fuscus* Scopoli, Ent. Carn. N.º 960 and 961.
1775. *Syrphus tenax* Fabricius, Syst. Entom. 765.
1794. *Syrphus tenax* Fabricius, Entom. Syst. 288.
1805. *Eristalis tenax* Fabricius, Syst. Antl.: 238.
1810. *Elophilus tenax* Latreille, Cons. Gén. Nat. Sci. 443.
1817. *Eristalis tenax* Fallén, Disp. Dipt. 1:26.
1822. *Eristalis tenax, campestris, hortorum, sylvaticus, vulpinus* Meigen, Syst. Beschr. 3:385 to 388.
1824. *Eristalis sinensis* Wiedemann, Anal. Ent. 37.
1830. *Eristalis sinensis* Wiedemann, Ausser. Zweif. Ins. 2:179.
1843. *Eristalis tenax* Zetterstedt, Dipt. Scand. 2:661.
1849. *Eristalis tenax* Zetterstedt, Dipt. Scand. 8:3113.
1851. *Eristalis tenax* Walker, Ins. Brit. 1:243, fig.
1852. *Eristalis tenax* Zetterstedt, Dipt. Scand. 11:4301.
1855. *Eristalis tenax* Zetterstedt, Dipt. Scand. 12:4651.
1857. *Eristalis tenax* Schiner, Dipt. Austr. 7:390.
1862. *Eristalis tenax* Schiner, Fauna Austr. 1:334.
1886. *Eristalis tenax* Williston, U. S. Nat. Mus. Bul. 31:160, fig.
1893. *Eristalis tenax* Osten Sacken, Bul. Soc. Ent. Ital. 25:186.
1901. *Eristalis tenax* Verrall, Brit. Flies, Syrph. 505, fig.
1910. *Eristalis tenax* Osten Sacken, Proc. Iowa Acad. Sci. 10:137.
1910. *Eristalis tenax* Kertèsz, Cat. Dipt. 7:238.
1925. *Eristalis tenax* Hull, Ohio Jour. Sci. 25:305.
1930. *Eristalis tenax campestris* Curran, Amer. Mus. Novit. 411:25 (Chile).
1940. *Eristalomyia tenax* Enderlein, in Scottsb. Nat. Hist. Fernan. Zool. 3, 5:662.
1949. *Tubifera tenax* Bean, Can. Ent. 81:149, fig. 15.

Chile; Argentina, de Neuquén a Tucumán.

Eristalis tenuifrons Curran

1930. *Eristalis tenuifrons* Curran, Amer. Mus. Novit. 411:12.

Canal Zone: Fort Randolph.

Eristalis testaceicornis Macquart

1849. *Eristalis testaceicornis* Macquart, Dipt. Exot. 4 Suppl.: 138.
1852. *Eristalis testaceicornis* Blanchard, Gay's Hist. polit. Chile, Zool. 7:407.
1865. *Eristalis testaceicornis* Philippi, Verh. Zool.-Bot. Ges. Wien 15:743.
1930. *Eristalis testaceicornis* Curran, Amer. Mus. Novit. 411:8.

Mexico.

Eristalis thalia Hull

1942. *Eristalis thalia* Hull, Psyche 49:86.

Colombia: Bogotá, Dept. Cundinamarca.

Eristalis triangularis Giglio-Tos

1888. *Eristalis?* Williston, Trans. Amer. Ent. Soc. 15:281.
1891. *Eristalis?* Williston, Biol. Centr. Amer., Dipt. 3:63.
1892. *Eristalis triangularis* Giglio-Tos, Boll. Mus. Zool. Torino 7:6.
1892. *Eristalis triangularis* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:9.
1905. *Eristalis triangularis* Aldrich, Cat. Dipt. 390.
1925. *Eristalis triangularis* Hull, Ohio Jour. Sci. 25:35, pl. 2, fig. 19.

Mexico; Guatemala; Brazil; Cuba.

Eristalis trigonus Williston

1891. *Eristalis trigonus* Williston, Biol. Centr. Amer., Dipt. 3:61, tab. 2, fig. 4.
1905. *Eristalis trigonus* Aldrich, Cat. Dipt. 390.
1925. *Eristalis trigonus* Hull, Ohio Jour. Sci. 25:28.

Mexico: Xucumanatlan, Omilteme, Guerrero.

Eristalis trilimbatus Giglio-Tos

1892. *Eristalis trilimbatus* Giglio-Tos, Boll. Mus. Zool. Torino 7:5.
1892. *Eristalis trilimbatus* Giglio-Tos, Mem. R. Accad. Sci. Torino 43:8.
1905. *Eristalis trilimbatus* Aldrich, Cat. Dipt. 390.

Mexico.

Eristalis unicolor Wulp

1883. *Eristalis unicolor* Wulp, Tijd. v. Ent. 25:131, fig.
1905. *Eristalis unicolor* Aldrich, Cat. Dipt. 390.

Guadeloupe.

Eristalis urotaenia Curran

1930. *Eristalis urotaenia* Curran, Amer. Mus. Novit. 411:15.

Brazil: Chapada.

Eristalis vera Hull

1949. *Eristalis vera* Hull, Psyche 56:120.

Brazil: Nova Teutônia.

Eristalis vierecki Curran

1930. *Eristalis vierecki* Curran, Amer. Mus. Novit. 411:10.

Colombia: Vista Nieve; Bolivia.

Eristalis vinetorum (Fabricius)

1798. *Syrphus vinetorum* Fabricius, Ent. Syst. 562.
1805. *Eristalis vinetorum* Fabricius, Syst. Antl.: 235.
1829. *Eristalis trifasciatus* Say, J. Acad. Phil. 6:165.
1829. *Eristalis trifasciatus* Say, Compl. Wr. 2:359.
1830. *Eristalis vinetorum* Wiedemann, Ausser. Zweif. Ins. 2:163.
1842. *Eristalis vinetorum* Macquart, Dipt. Exot. 2, 2:41.
1849. *Eristalis uvarum* Walker, List, etc. 3:623.
1880. *Eristalis soulouguensis* Bigot, Ann. Soc. Ent. France: 228.
1886. *Eristalis vinetorum* Williston, U. S. Nat. Mus. Bul. 31:171, pl. 7, fig. 8a.
1888. *Eristalis vinetorum* Williston, Trans. Amer. Ent. Soc. 15:280.
1891. *Eristalis vinetorum* Williston, Biol. Centr. Amer., Dipt. 3:63.
1895. *Eristalis vinetorum* Townsend, Trans. Amer. Ent. Soc. 22:50.
1905. *Eristalis vinetorum* Aldrich, Cat. Dipt. 390.
1925. *Eristalis vinetorum* Hull, Ohio Jour. Sci. 25:40, pl. 1, fig. 9.
1933. *Eristalis vinetorum* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:160.
1934. *Eristalis vinetorum* Curran, Bul. Amer. Mus. Nat. Hist. 66:411.
1943. *Eristalis vinetorum* Hull, Proc. Ent. Soc. Wash. 45:10.
1949. *Tubifera vinetorum* Bean, Ent. 81:146, fig. 8.

West Indies; Guatemala; Cuba; Br. Guiana; Brazil; Mexico; Argentina: Misiones, Formosa.

Eristalis volaticus Williston

1888. *Eristalis volaticus* Williston, Trans. Amer. Ent. Soc. 15:280.
1921. *Eristalis volaticus* Sack, Archiv. Naturg. 87:142.
1925. *Eristalis volaticus* Hull, Ohio Jour. Sci. 25:287.

Brazil.

Genus *MEROMACRUS* Rondani

1842. *Plagiocera* Macquart (not Klug), Dipt. Exot. 2, 2:59.
1848. *Meromacrus* Rondani, Ditt. Brazil Truqui. 1:70, pl. 3, fig. 305 (type *ghiliani* Rondani).
1865. *Pteroptila* Loew, Berl. Ent. Zeitschr. 6:165.

1886. *Pteroptila* Williston, U. S. Nat. Mus. Bul. 31:179.
1893. *Meromacrus* Williston, Ent. News 4:114.
1920. *Meromacrus* Sack, Zool. Jahrb. 43:257.
1934. *Meromacrus* Curran, Bul. Amer. Mus. Nat. Hist. 66:415.
1936. *Meromacrus* Curran, Amer. Mus. Novit. 834.
1942. *Meromacrus* Hull, Amer. Mus. Novit. 1200:1.
1949. *Meromacrus* and *Metameromacrus* Hull, Trans. Zool. Soc. London 26:398.

Regions: neotropical and nearctic.

Meromacrus abdominalis Sack

1921. *Meromacrus abdominalis* Sack, Zool. Jahrb. Syst. 63:261.
1942. *Meromacrus abdominalis* Hull, Amer. Mus. Novit. 1200:2.

Peru.

Meromacrus acutus (Fabricius)

1805. *Milesia acutus* Fabricius, Syst. Antl.: 189.
1830. *Milesia cruciger* and *acutus* Wiedemann, Ausser. Zweif. Ins. 2:105 and 110.
1834. *Mallota milesiformis* Macquart, Hist. Nat. Dipt. 2:500.
1842. *Plagiocera cruciger* Macquart, Dipt. Exot. 2, 2:60, fig.
1849. *Milesia crucigera* Walker, List, etc. 3:564.
1856. *Milesia crucifer* Bigot, Hist. Isla Cuba P. 2, 7:337.
1863. *Sphixea crucigera* Rondani, Archiv. Zool. 3:8.
1886. *Pteroptila cruciger* Williston, U. S. Nat. Mus. Bul. 31:180, fig.
1891. *Pteroptila cruciger* Williston, Biol. Centr. Amer., Dipt. 3:66.
1905. *Meromacrus acutus* Aldrich, Cat. Dipt. 390.
1914. *Meromacrus acutus* Hine, Ohio Nat. 14:342.
1924. *Meromacrus cruciger* Hine, Bul. Brook Ent. Soc. 19:21.
1942. *Meromacrus acutus* Hull, Amer. Mus. Novit. 1200:3.

Neotropical region.

Meromacrus aemulus (Williston)

1888. *Pteroptila aemula* Williston, Trans. Amer. Ent. Soc. 15:283.
1942. *Meromacrus aemulus* Hull, Amer. Mus. Novit. 1200:3.

Brazil.

Meromacrus anna Curran

1936. *Meromacrus anna* Curran, Amer. Mus. Novit. 834:4.
1942. *Meromacrus anna* Hull, Amer. Mus. Novit. 1200:2.

Panama: Barro Colorado Island, France Field, Ft. Randolph; Brazil; Br. Guiana; Peru.

Meromacrus auriferus Hull

1942. *Meromacrus auriferus* Hull, Amer. Mus. Novit. 1200:4, fig. 12.
1952. *Meromacrus auriferus* D'Andretta & Carrera, Pap. Avul. 10:303.

Brazil: Nova Teutônia.

Meromacrus basigera (Walker)

1860. *Eristalis basigera* Walker, Trans. Ent. Soc. London (N. S.) 5:290.
1880. *Eristalomyia milesioides* Bigot, Ann. Soc. Ent. France 10:226.
1886. *Pteroptila milesioides* Williston, Trans. Amer. Ent. Soc. 13:320.
1888. *Pteroptila milesioides* Williston, Trans. Amer. Ent. Soc. 15:283.
1910. *Meromacrus milesioides* Kertèsz, Cat. Dipt. 7:248.
1942. *Meromacrus basigera* Hull, Amer. Mus. Novit. 1200:10.
1943. *Meromacrus basigera* Hull, Proc. Ent. Soc. Wash. 45:10.

Brazil (Amazon); Argentina: Villa Nouges (Tucumán).

Meromacrus bruneri Curran

1936. *Meromacrus bruneri* Curran, Amer. Mus. Novit. 834:2.
1942. *Meromacrus bruneri* Hull, Amer. Mus. Novit. 1200:2.

Cuba.

Meromacrus brunneus Hull

1942. *Meromacrus brunneus* Hull, Amer. Mus. Novit. 1200:9, fig. 8.

Br. Guiana: Wismar.

Meromacrus canusium (Walker)

1849. *Milesia canusium* Walker, List, etc. 3:560.
1942. *Meromacrus canusium* Hull, Amer. Mus. Novit. 1200:9, fig. 1.

Neotropical region.

Meromacrus ceres Hull

1942. *Meromacrus ceres* Hull, Jour. Kans. Ent. Soc. 15:11.

Brazil.

Meromacrus cinctus (Drury)

1770. *Musca cincta* Drury, Exot. Ins. London 1:109, figs.
1775. *Syrphus pinguis* Fabricius, Syst. Ent. 4:763.
1794. *Syrphus pinguis* Fabricius, Ent. Syst. 4:282.
1805. *Eristalis pinguis* Fabricius, Syst. Antl. 233.
1830. *Eristalis pinguis* Wiedemann, Ausser. Zweif. Ins. 2:193.
1849. *Milesia ania* Walker, List, etc. 3:564.
1855. *Meromacrus pinguis* Macquart, Dipt. Exot. 5,Suppl.: 94.
1885. *Pteroptila cincta* Röder, Stett. Ent. Zeit. 46:342.
1886. *Meromacrus cinctus* Williston, U. S. Nat. Mus. Bul. 31:182.
1892. *Pteroptila cincta* Wulp, Tijd. v. Ent. 34:205.
1894. *Pteroptila cincta* Johnson, Proc. Acad. Sci. Phil. 277.
1895. *Meromacrus cinctus* Townsend, Trans. Amer. Ent. Soc. 22:50.
1896. *Pteroptila cincta* Hunter, Can. Ent. 28:99.
1905. *Meromacrus cinctus* Aldrich, Cat. Dipt. 391.
1924. *Meromacrus cinctus* Hine, Bul. Brook. Ent. Soc. 19:21.
1942. *Meromacrus cinctus* Hull, Amer. Mus. Novit. 1200:2.

West Indies.

Meromacrus cingulatus Sack

1921. *Meromacrus cingulatus* Sack, Zool. Jahrb., Syst. 43:259.
1942. *Meromacrus cingulatus* Hull, Amer. Mus. Novit. 1200:6.

Brazil: Nova Teutônia; Argentina: Tucumán, Buenos Aires; Paraguay.

Meromacrus circumdatus (Bigot)

1875. *Sphixea circumdatus* Bigot, Ann. Soc. Ent. France: 471.
1886. *Pteroptila circumdatus* Williston, Trans. Amer. Ent. Soc. 13:320.
1942. *Meromacrus circumdatus* Hull, Amer. Mus. Novit. 1200:3, 6.

Colombia.

Meromacrus currani Hull

1942. *Meromacrus currani* Hull, Amer. Mus. Novit. 1200:5, fig. 7.

Br. Honduras.

Meromacrus decorus (Loew)

1865. *Pteroptila decora* Loew, Berl. Ent. Zeitsch. 6:59.
1886. *Meromacrus decorus* Williston, U. S. Nat. Mus. Bul. 31:181.
1905. *Meromacrus decorus* Aldrich, Cat. Dipt. 391.
1924. *Meromacrus decorus* Hine, Bul. Brook. Ent. Soc. 19:21.
1942. *Meromacrus decorus* Hull, Amer. Mus. Novit. 1200:2.

Cuba.

Meromacrus draco Hull

1942. *Meromacrus draco* Hull, Amer. Mus. Novit. 1200:6.

Costa Rica; Guatemala: Quirigua; Br. Honduras: Benge Viejo.

Meromacrus flavolinea Hull

1949. *Meromacrus flavolinea* Hull, Psyche 56:131.

Peru: Pucallpa.

Meromacrus flukei Curran

1896. *Meromacrus pratorum* Williston (not Fabricius), Trans. Ent. Soc. London: 346.
1936. *Meromacrus flukei* Curran, Amer. Mus. Novit. 834:3.
1942. *Meromacrus flukei* Hull, Amer. Mus. Novit. 1200:3.

West Indies: St. Vincent; Virgin Islands: St. Thomas.

Meromacrus fucatus Hull

1930. *Meromacrus fucatus* Hull, Trans. Amer. Ent. Soc. 56:143.

Dutch Guiana: Paramaribo.

Meromacrus funereus Shannon & Aubertin

1933. *Meromacrus funereus* Shannon & Aubertin, Dipt. Patagonia S. Chile 6:163.
1942. *Meromacrus funereus* Hull, Amer. Mus. Novit. 1200:1.

Argentina.

Meromacrus ghiliani Rondani

1848. *Meromacrus ghiliani* Rondani, Ditt. Brazil. Truqui. 1:70.
1942. *Meromacrus ghiliani* Hull, Amer. Mus. Novit. 1200:10.
1952. *Meromacrus ghiliani* D'Andretta & Carrera, Pap. Avul. 10:303.

Brazil:

Meromacrus hinei Hull

1942. *Meromacrus hinei* Hull, Amer. Mus. Novit. 1200:4.

Peru: Rio Maranon.

Meromacrus lineascripta Hull

1937. *Meromacrus lineascripta* Hull, Jour. Wash. Acad. Sci. 27:170, fig. 10.

Bolivia: Ivon Beni.

Meromacrus matilda Hull

1949. *Meromacrus matilda* Hull, Psyche 56:127.

Peru: Pucallpa.

Meromacrus melmoth Hull

1937. *Meromacrus melmoth* Hull, Psyche 44:12.

Bolivia: Prov. of Sara.

Meromacrus milesia Hull

1942. *Meromacrus milesia* Hull, Amer. Mus. Novit. 1200:2.

French Guiana.

Meromacrus niger Sack

1921. *Meromacrus niger* Sack, Archiv. Naturg. 87:145.
1934. *Meromacrus niger* Curran, Bul. Amer. Mus. Nat. Hist. 66:416.
1942. *Meromacrus niger* Hull, Amer. Mus. Novit. 1200:1.

Br. Guiana: Kartabo; Argentina: Villa Nouges (Tucumán).

Meromacrus obscurus Hine

1924. *Meromacrus obscurus* Hine, Bul. Brook. Ent. Soc. 19:21.
1942. *Meromacrus obscurus* Hull, Amer. Mus. Novit. 1200:2.

Guatemala.

Meromacrus opulentus (Bigot)

1883. *Eristalis opulentus* Bigot, Ann. Soc. Ent. France: 336.
1886. *Pteroptila opulentus* Williston, U. S. Nat. Mus. Bul. 31:299.
1905. *Meromacrus opulentus* Aldrich, Cat. Dipt. 391.
1924. *Meromacrus opulentus* Hine, Bul. Brook. Ent. Soc. 19:22.
1942. *Meromacrus opulentus* Hull, Amer. Mus. Novit. 1200:10, figs. 2, 3.

Cuba.

Meromacrus pluto Hull

1942. *Meromacrus pluto* Hull, Amer. Mus. Novit. 1200:7, fig. 13.

Peru.

Meromacrus potens Curran

1932. *Meromacrus potens* Curran, Amer. Mus. Novit. 519:8.
1942. *Meromacrus potens* Hull, Amer. Mus. Novit. 1200:2.

Cuba: Sierra Maestra.

Meromacrus pratorum (Fabricius)

1775. *Syrphus pratorum* Fabricius, Syst. Ent.: 765.
1794. *Syrphus pratorum* Fabricius, Entom. Syst.: 286.
1805. *Eristalis pratorum* Fabricius, Syst. Antl. 236.
1830. *Eristalis pratorum* Wiedemann, Ausser. Zweif. Ins. 2:166.
1905. *Meromacrus pratorum* Aldrich, Cat. Dipt. 391.
1921. *Meromacrus pratorum* Sack, Archiv. Naturg. 87:144, fig.
1924. *Meromacrus pratorum* Hine, Bul. Brook. Ent. Soc. 19:22.
1930. *Meromacrus panamensis* Curran, Amer. Mus. Novit. 416:11.
1934. *Meromacrus pratorum* Curran, Bul. Mus. Nat. Hist. 66:416.
1936. *Meromacrus pratorum* Curran, Amer. Mus. Novit. 834:2.
1942. *Meromacrus pratorum* Hull, Amer. Mus. Novit. 1200:3.

Br. Guiana: Kartabo; Panama: Barro Colorado; Argentina: Urundel en Salta; Paraguay.

Meromacrus ruficrus (Wiedemann)

1830. *Milesia ruficrus* Wiedemann, Ausser. Zweif. Ins. 2:105.
1842. *Plagiocera ruficrus* Macquart, Dipt. Exot. 2, 2:59.
1886. *Pteroptila ruficrus* Williston, U. S. Nat. Mus. Bul. 31:181.
1905. *Meromacrus ruficrus* Aldrich, Cat. Dipt. 391.
1924. *Meromacrus rificrus* Hine, Bul. Brook. Ent. Soc. 19:22.
1942. *Meromacrus ruficrus* Hull, Amer. Mus. Novit. 1200:3.

Cuba; U.S.A.: Florida.

Meromacrus simplex (Schiner)

1868. *Plagiocera simplex* Schiner, Reise Novara, Dipt. 365.
1888. *Pteroptila simplex* Williston, Trans. Amer. Ent. Soc. 15:283.
1942. *Meromacrus simplex* Hull, Amer. Mus. Novit. 1200:3.

Brazil.

Meromacrus strigulus Hull

1942. *Meromacrus strigulus* Hull, Amer. Mus. Novit. 1200:8.

Peru: Rio Ucayli.

Meromacrus villosa Hull

1949. *Meromacrus villosa* Hull, Psyche 56:129.

Peru: Pucallpa.

Meromacrus zonatus (Loew)

1865. *Pteroptila zonata* Loew, Berl. Ent. Zeit. 6:60.
1886. *Pteroptila zonata* Williston, U. S. Nat. Mus. Bul. 31:182.
1891. *Meromacrus zonatus* Williston, Biol. Centr. Amer., Dipt. 3:67.
1905. *Meromacrus zonatus* Aldrich, Cat. Dipt. 391.
1924. *Meromacrus zonatus* Hine, Bul. Brook Ent. Soc. 19:23.
1942. *Meromacrus zonatus* Hull, Amer. Mus. Novit. 1200:3.

Mexico.

Genus *LYCOPALE* Hull

1944. *Lycopale* Hull, Jour. Wash. Acad. Sci. 34:129 (type *vittata* Hull)
1949. *Lycopale* Hull, Trans. Zool. Soc. London 26:388.

Region neotropical.

Lycopale vittata (Hull)

1937. *Meromacrus vittata* Hull, Jour. Wash. Acad. Sci. 27:170.
1942. *Meromacrus vittata* Hull, Amer. Mus. Novit. 1200:1.

Argentina: Villa Nouges.

Genus *THALAMOPALES* Hull

1949. *Thalamopales* Hull, Trans. Zool. Soc. London 26:401 (type *scitus* Walker).

Region neotropical.

Thalamopales scitus (Walker)

1875. *Helophilus scitus* Walker, Trans. Ent. Soc. London (N. S.) 4:152.
1910. *Tubifera scita* Kertèsz, Cat. Dipt. 7:259.
1943. *Habromyia scita* Hull, Proc. Ent. Soc. Wash. 45:9.
1949. *Thalamopales scitus* Hull, Trans. Zool. Soc. London 26:401.

Amazons (Brit. Museum).

Genus *LYCASTRIRRHYNCHA* Bigot

1859. *Lycastrirrhyncha* Bigot, Rev. Mag. Zool.: 307 (type *nigra* Macquart).
1891. *Lycastrirhyncha* Williston, Biol. Centr. Amer., Dipt. 3:66.

1905. *Lycastrirhyncha* Aldrich, Cat. Dipt. 390.
1949. *Lycastrirrhyncha* Hull, Trans. Zool. Soc. London 26:401.

Region neotropical.

Lycastrirrhyncha mexicana Curran

1930. *Lycastrirhyncha mexicana* Curran, Amer. Mus. Novit. 415:15.

Mexico: Vera Cruz.

Lycastrirrhyncha nitens Bigot

1859. *?Lycastrirrhyncha nitens* Bigot, Rev. Mag. Zool.: 307.
1891. *Lycastrirhyncha nitens* Williston, Biol. Centr. Amer., Dipt. 3:66.
1892. *Lycastrirhyncha nitens* Giglio-Tos, Boll. Mus. Zool. Torino 7:17.
1905. *Lycastrirhyncha nitens* Aldrich, Cat. Dipt. 390.
1914. *Lycastrirhyncha nitens* Hine, Ohio Nat. 14:324.

Mexico: Vera Cruz; Amazons.

Lycastrirrhyncha titillans Hull

1944. *Lycastrirhyncha titillans* Hull, Rev. de Ent. 15:53.

Br. Guiana: Mackenzie, Demerara River.

Lycastrirrhyncha willistoni Coquillett

1902. *Lycastrirhyncha willistoni* Coquillett, Can. Ent. 34:196.
1905. *Lycastrirhyncha willistoni* Aldrich, Cat. Dipt. 390.

Mexico.

Genus *PROMILESIA* Arribálzaga

1892. *Promilesia* Arribálzaga, An. Soc. Cient. Argentina 33:241 (type *nectarinoides* Arribálzaga).
1949. *Promilesia* Hull, Trans. Zool. Soc. London 26:402.

Region neotropical.

Promilesia nectarinoides Arribálzaga

1892. *Promilesia nectarinoides* Arribálzaga, An. Soc. Cient. Argentina 33:243, fig.

Argentina.

SPECIES INCERTAE SEDIS

1848. *Aphritis ignobilis* Rondani, Truqui. Studi. Ent. 1:73. — Brazil.
1848. *Aphritis pauper* Rondani, Truqui. Studi Ent. 1:74. — Brazil.
1940. *Baccha bonariensis* Brèthes, Anal. Mus. Nat. Bucnos Aires 3:340, fig. 3. — Argentina.
1852. *Baccha crassa* Walker, Ins. Saunders 1:222. — Brazil.
1893. *Baccha fervida* Austen, Proc. Zool. Coc. London: 158, tab. 5, fig. 11. — Brazil.

1893. *Baccha flavens* Austen, Proc. Zool. Soc. London: 153, tab. 5, fig. 10. — Brazil.
1868. *Baccha gigantea* Schiner, Reise Novara, Dipt. 340. — South America.
1837. *Baccha inornata* Walker, Trans. Linn. Soc. London 17:342 — South America.
1852. *Baccha oblonga* Walker, Ins. Saunders 1:221. — Brazil.
1893. *Baccha silacea* Austen, Proc. Zool. Soc. London 149, tab. 5, fig. 13. — Brazil.
1893. *Baccha subchalybea* Austen, Proc. Zool. Soc. London 159. — Amazons.
1852. *Baccha tenuis* Walker, Ins. Saunders 1:222. — Brazil.
1842. *Eristalis? annulipes* Macquart, Dipt. Exot. 2, 2:49 (*taenia?*). — South America.
1855. *Eristalis columbica* Macquart, Dipt. Exot. 5 Suppl.: 88. — Colombia.
1830. *Eristalis decora* Perty, Delect. animal. artic. Brasil. 185, tab. 37, fig. 3; Williston, Ent. Amer. 3:28 (1887). — Brazil.
1850. *Eristalis funerea* Rondani, Nuov. Ann. Sci. Nat. Bologna 2:358. — Aequat. America.
1882. *Eristalis hirtipes* Bigot, Ann. Soc. Ent. France 121:3; Bigot, Ann. Soc. Ent. France: 343 (1883). — Panama.
1805. *Eristalis interrupta* Fabricius, Syst. Antl. 239. — South America.
1855. *Eristalis nigripennis* Macquart, Dipt. Exot. 5 Suppl.: 88. — Colombia.
1830. *Eristalis pachypus* Wiedemann, Ausser. Zweif. Ins. 2:171. — South America.
1855. *Eristalis quitensis* Macquart, Dipt. Exot. 5 Suppl.: 89. — Ecuador.
1842. *Eristalis trifasciata* Macquart, Dipt. Exot. 2, 2:39, tab. 10, fig. 1. — Brazil.
1863. *Eristalomya fulvitarsis* Rondani, Arch. Zool. 3:6. — Colombia.
1880. *?Eristalomyia calomera* Bigot, Ann. Soc. Ent. France: 299. — South America.
1880. *Eristalomyia calops* Bigot, Ann. Soc. Ent. France: 220. — Colombia.
1880. *Eristalomyia croceipes* Bigot, Ann. Soc. Ent. France: 227. — South America.
1880. *?Eristalomyia incerta* Bigot, Ann. Soc. Ent. France: 222. — Brazil.
1894. *Helophilus annulipes* Macquart, Dipt. Exot. 4 Suppl.: 142. — America.
1834. *Helophilus cyanescens* Macquart, Suit. Buffon. 1:511. — Brazil.
1849. *Mallota colombii* Macquart, Dipt. Exot. 4 Suppl.: 141, tab. 13, fig. 3; Schiner, Reise Novara 360 (1868). — Colombia.
1885. *Melanostoma cyaneocinctum* Bigot, Ann. Soc. Ent. France: 251. — Mexico.
1852. *Merodon bicolor* Walker, Ins. Saunders 1:243. — Brazil.
1805. *Merodon? chiragra* Fabricius, Syst. Antl. 198; Wiedemann, Ausser. Zweif. Ins. 2:150 (1830). — South America.
1805. *Merodon crassipes* Fabricius, Syst. Antl. 196 — South America.
1884. *?Mesograpta jaguarinus* Bigot, Ann. Soc. Ent. France: 112. — Brazil.
1830. *Microdon limbatus* Wiedemann, Ausser. Zweif. Ins. 2:85. — Brazil.
1883. *Microdon opulentus* Bigot, Ann. Soc. Ent. France: 319. — Brazil.
1852. *Milesia laconica* Walker, Ins. Sauders 1:227. — Brazil.

1852. *Ocyptamus stolo* Walker, Ins. Sauders 1:241; Austen, Proc. Zool. Soc. London 134 (1893). — Brazil.
1837. *Ocyptamus tarsalis* Walker, Trans. Linn. Soc. London 17:345; Austen, Proc. Zool. Soc. London 134 (1893). — South America.
1849. *Paragus annulipes* Macquart, Dipt. Exot. 4 Suppl.: 160, tab. 14, fig. 18. — Brazil.
1852. *Paragus maculatus* Walker, Ins. Saunders 1:220. — Brazil.
1884. *Paragus ruficaudatus* Bigot, Ann. Soc. Ent. France: 541. — Brazil.
1892. *Phalacromyia albitarsis* Arribálzaga, An. Soc. Cient. Argentina 34:244. — Argentina.
1868. *Phalacromyia prasina* Schiner, Reise Novara, Dipt. 354; Bigot, Ann. Soc. Ent. France: 82 (1883). — South America.
1865. *Phalacromyia rufoscutellaris* Philippi, Verh. Zool.-Bot. Ges. Wien 15:735; Bigot, Ann. Soc. Ent. France: 83 (1883). — Chile.
1883. *Phalacromyia soror* Bigot, Ann. Soc. Ent. France: 83; Arribálzaga, Anal. Soc. Cient. Argentina 34:244 (1892). — Argentina.
1863. *Phalacromyia subcoerulea* Rondani, Arch. Zool. 3:3; Bigot, Ann. Soc. Ent. France: 83 (1883). — South America.
1848. *Phalacromyia submetallica* Rondani, Truqui. Studi Ent. 1:67; Bigot, Ann. Soc. Ent. France: 83 (1883). — Brazil.
1837. *Pipiza longicornis* Walker, Trans. Linn. Soc. London 17:343; Walker, List, etc. 3:570 (1849). — South America.
1837. *Pipiza sericea* Walker, Trans. Linn. Soc. London 17:343; Walker, List, etc. 3:570 (1849). — South America.
1887. *Priomerus gagathina* Bigot, Ann. Soc. Ent. France: 79. — Ecuador.
1888. *Pterallastes nubeculosus* Wulp, Tijd. v. Ent. 26:372; Arribálzaga, An. Soc. Cient. Argentina 32:89 (1891); Shannon & Aubertin, Dipt. Patagonia S. Chile 6:159 (1933). — Argentina.
1933. *Salpingogaster virgata* Austen, Proc. Zool. Soc. London 159, tab. 5, fig. 3. — Brazil.
1886. *Sphegina chiraga* Williston, Trans. Amer. Ent. Soc. 13:314. — South America.
1857. *Sâritta transversa* Walker, Trans. Ent. Soc. London (N. S.) 4: 153. — Amazons.
1884. *Syrphus agilis* Bigot, Ann. Soc. Ent. France: 92; Aldrich, Cat. Dipt. 364 (1905). — Mexico.
1842. *Syrphus auropulveratus* Macquart, Mem. Soc. Sci. Lille 2:99; Blanchard, Gay's Hist. polit. Chile, Zool. 7:412 (1852); Philippi, Verh. Zool.-Bot. Ges. Wien 15:746 (1865). — Chile.
1837. *Syrphus basalis* Walker, Trans. Linn. Soc. London 17:345. — Brazil.
1849. *Syrphus chiquitensis* Macquart, Dipt. Exot. 4 Suppl.: 154. — Bolivia.
1858. *Syrphus colludens* Walker, Trans. Ent. Soc. London 5:292; Aldrich, Cat. Dipt. 365 (1905). — Mexico.
1863. *Syrphus decemmaculatus* Rondani, Archiv. Zool. 3:12; Shannon & Aubertin, Dipt. Patagonia S. Chile 6:122 (prob. either *Mesogramma* or *Allograpta*) (1933). — Chile.
1845. *Syrphus delineatus* Macquart, Dipt. Exot. 1 Suppl.: 139, fig.; Aldrich, Cat. Dipt. 365 (1905). — Mexico.
1850. *Syrphus excavatus* Rondani, Nuov. Ann. Sci. Nat. Bologna 2:359; Williston, Ent. Amer. 3:28 (1887). — Equa. America.
1850. *Sârphus fasciventris* Rondani, Nuov. Ann. Sci. Nat. Bologna 2:360. — Equa. America.

1846. *Syrphus fuscanipennis* Macquart, Dipt. Exot. 1 Suppl.: 136 — Brazil.
1842. *Syrphus immaculatus* Macquart, Dipt. Exot. 2, 2:98, tab. 17, fig. 1. — Brazil; Chile?
1892. *Syrphus lautus* Giglio-Tos, Boll. Mus. Zool. Torino 7:2; Giglio-Tos, Mem. R. Accad. Sci. Torino 43:29, fig. (1892); Aldrich, Cat. Dipt. 366 (1905). — Mexico.
1846. *Syrphus mellinoides* Macquart, Dipt. Exot. 1 Suppl.: 137. — Colombia.
1865. *Syrphus nigripes* Loew, Berl. Ent. Zeitsch. 9:155; Aldrich, Cat. Dipt. 367 (1905). — Cuba.
1884. *Syrphus pallipes* Bigot, Ann. Soc. Ent. France: 93; Shannon & Aubertin, Dipt. Patagonia S. Chile 6:123 (1933). — Chile.
1863. *Syrphus plurimaculatus* Rondani, Arch. Zool. 3:12. — South America.
1865. *Syrphus praeustus* Loew, Berl. Ent. Zeitsch. 9:155; Aldrich, Cat. Dipt. 367 (1905). — Cuba.
1842. *Syrphus punctatus* Macquart, Dipt. Exot. 2, 2:92; Shannon & Aubertin, Dipt. Patagonia S. Chile 6:123 (1933). — Chile.
1857. *Syrphus quadrifasciatus* Bigot, Hist. polit. Nat. Cuba 7:804, fig.; Williston, U. S. Nat. Mus. Bul. 31:87 (1886); Aldrich, Cat. Dipt. 367 (1905). — Cuba.
1857. *Syrphus radiatus* Bigot, Hist. polit. Nat. Cuba 7:804; Aldrich, Cat. Dipt. 367 (1905). — Cuba.
1849. *Syrphus sargoides* Macquart, Dipt. Exot. 4 Suppl.: 151, tab. 14, fig. 9. — Brazil.
1892. *Syrphus saussurii* Giglio-Tos, Boll. Mus. Zool. Torino 7:2; Giglio-Tos, Mem. R. Accad. Sci. Nat. Torino 43:348 (1892); Aldrich, Cat. Dipt. 367 (1905). — Mexico; Guatemala.
1849. *Syrphus sinuatinervis* Macquart, Dipt. Exot. 4 Suppl.: 151, tab. 14, fig. 10. — Brazil.
1857. *Syrphus subchalybea* Walker, Trans. Ent. Soc. London (N. S.) 4:157. — Amazons.
1837. *Syrphus unicolor* Walker (preoc. Macquart 1829 and Guerin 1835), Trans. Linn. Soc. London 17:344. — Patagonia.
1863. *Syrphus vertebratus* Rondani, Archiv. Zool. 3:10; Shannon & Aubertin, Dipt. Patagonia S. Chile 6:123 (1933). — Chile.
1846. *Syrphus vicinus* Macquart, Dipt. Exot. 1 Suppl.: 136. — Brazil.
1849. *Syrphus virgulatus* Macquart, Dipt. Exot. 4 Suppl.: 152, tab. 14, fig. 11. — Brazil?
1891. *Syrphus walkeri* Arribálzaga, An. Soc. Cient. Argentina 32:117; Shannon & Aubertin, Dipt. Patagonia S. Chile 6:123 (*Melanostoma?*) (1933). — Patagonia.
1852. *Temnocera fulvolucens* Walker, Ins. Saunders 1:252. — Brazil.
1887. *Temnocera fulvolucus* Williston, Ent. Amer. 3:28. — Brazil.
1857. *Temnocera integra* Walker, Trans. Ent. Soc. London (N. S.) 4:155. — Amazons.
1852. *Temnocera metallorum* Walker, Ins. Saunders, Dipt. 1:252; Williston, Ent. Amer. 3:28 (1887). — Brazil.
1857. *Temnocera trifascia* Walker, Trans. Ent. Soc. London (N. S.) 4:154. — Brazil.
1848. *Volucella alchimista* Rondani, Truqui. Studi Ent. 1:64, tab. 3, fig. 2; Bigot, Ann. Soc. Ent. France: 68 (1883). — Brazil.
1857. *Volucella circumdata* Walker, Trans. Ent. Soc. London (N. S.) 4:154. — Amazons.

1830. *Volucella flavipennis* Wiedemann, Ausser. Zweif. Ins. 2:203; Bigot, Ann. Soc. Ent. France: 71 (1883). — Brazil.
1875. *Volucella macrorhina* Bigot, Ann. Soc. Ent. France: 474; Bigot, Ann. Soc. Ent. France: 72 (1883). — Brazil.
1848. *Volucella parva* Rondani, Truqui. Studi Ent. 1:66; Bigot, Ann. Soc. Ent. France: 76 (1883). — Brazil.
1863. *Volucella pectoralis* Rondani, Archiv. Zool. 3:3; Bigot, Ann. Soc. Ent. France: 73 (1883). — South America.
1848. *Volucella plorans* Rondani, Truqui. Studi Ent. 1:65; Bigot, Ann. Soc. Ent. France: 75 (1883); Williston, Ent. Amer. 3:28 (1887). — Brazil.
1868. *Xylota aurifacies* Bigot in litt. Schiner, Reise Novara, Dipt. 360. — Chile.
1868. *Xylota chloropyga* Schiner, Reise Novara, Dipt. 366. — Colombia.

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ADDENDA

Since the above manuscript was prepared there have been several papers published. The first one named, by Sack, was received late in 1953.

1951. Sack, P. in Erich Titschack, Beitrage zur Fauna Perus, Band II. Sack apparently prepared his manuscript sometime before World War II. He uses, unfortunately, many generic combinations since changed None of the works by Shannon, Curran or Hull have been recognized and for this reason some of the new species are probably synonyms. There are numerous distribution records. His new species with designated page references are as follows:

Allograpta chilensis, p. 94, fig. Chile, Peru.
Allograpta scutellata, p. 95, Peru, Bolivia.
Toxomerus aquilinus, p. 96, Peru, Bolivia.
Toxomerus incaicus, p. 97, Peru, Bolivia.
Toxomerus nasutus, p. 98, figs., Peru.
Toxomerus ornatus, p. 99, Peru, Bolivia.
Ceratophyia flava, p. 113, Peru.
Phalacromyia bimaculata, p. 106, Peru.
Volucella frontalis, p. 103, Peru.
Volucella fumipennis, p. 104, Peru, Costa Rica.
Temnocera robusta, p. 105, Peru.
Cerioides nitida, p. 114, Peru.
Cerioides robusta, p. 115, Peru.
Dolichogyna peruana, p. 110, Peru, Chile.
Tubifera pennipes, p. 110, fig., Peru.
Myiatropa fasciata, p. 111, Peru.
Mallota vulpina, p. 112, Peru.
Eristalis macula, p. 108, Peru.

1953. Curran, C. H. Notes and Descriptions of Some Mydaidae and Syrphidae (Diptera). American Mus. Novitates N.º 1945.

New species are:

Volucella exugenia, p. 4, West Indies: Jamaica.
Volucella pallisteri, p. 9, Mexico.
Volucella sica, p. 9, Ecuador.

Notes on and synonomy of:

Volucella dispar Macq., *V. esuriens* Fabr., *V. eugenia* Will., *V. ingenia* Curr., and *V. rica* Curr.

1953. Fluke, C. L. New Syrphidae from North America. Jour. Kansas Ent. Soc. 26:125-129.

The new species *Lepidostola micheneri* p. 126, fig. (Texas) is neotropical.

1953. Fluke, C. L. Some Syrphid Fly Synonomy. Ent. News 64:208-9. Synonomy of the Neotropical species is as follows:

Mesograpta (= *Mesogramma*).
Rhysops neotropicum, Curran (= *R. columella* Fluke).
Volucella beatricea Hull (= *V. ecuadorea* Fluke).
Allograpta micrura O. S. (= *picticauda* Bigot).

1953. Steyskal, George C. A. New Melissomimetic Fly of the Genus *Microdon* (Diptera Syrphidae). Occa. Pap. Mus. Zool. Univ. Michigan, N.º 551.

New species:

Microdon gaigei, Panama.

1954. Hull, F. M. The Genus *Mixogaster* Macquart. American Mus. Novitates N.º 1652. 1-28, illus.

New species are:

Mixogaster polistes, p. 4, Brazil. (Amer. Mus.).
Mixogaster currani, p. 5, Brazil. (Amer. Mus.).
Mixogaster thecla, p. 6, Brazil. (Amer. Mus.).
Mixogaster cicatrix, p. 9, Brazil. (Cornell Univ.).
Mixogaster flukei, p. 15, Brazil. (Amer. Mus.).

New combinations:

Mixogaster bellula Williston (Mexico) and *M. claripennis* Hine removed to *Microdon,* subgenus *Pseudomicrodon. Microdon flukei* Curran placed in *Paramicrodon,* an Oriental genus.

1955. Fluke, C. L. Los Insectos de las Islas Juan Fernandez 18, Syrphidae. Rev. Chilena Ent. 4:39-43.

New synonomy:

Allograpta exotica Wied. (= *skotts-bergi* Enderlein).

New record:

Sterphus aurifrons Shannon.

1956. Fluke, C. L., and H. V. Weems, Jr. The *Myioleptini* of the Americas. Amer. Mus. Novitates N.º 1958. p. 1-23, illus.

New Neotropical species include:

Myolepta apicalis Fluke, p. 9, Argentina (Tucumán).

Myolepta (*Eumiyiolepta*) *minuta* Fluke, p. 16, Argentina (Tucumán).

New combination:

Myolepta (*Eumyiolepta*) *scintillans* Hull (= *Lepidostola scintillans* Hull.), p. 17.

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DESCRIPTION OF THE OSBORN TYPES OF TYPHLOCYBINAE (HOMOPTERA, CICADELLIDAE) IN THE CARNEGIE MUSEUM COLLECTION

BY

DAVID A. YOUNG, JR.

Bureau of Entomology and Plant Quarantine, Agricultural Research Administration, U. S. Department of Agriculture

During the period from 1923 to 1928, Professor Herbert Osborn published a series of papers on the Neotropical leafhoppers, most of which were from the Carnegie Museum Collection. In the course of the work on a recent generic classification of Western Hemisphere Typhlocybinae (1), through the kindness of the late Walter R. Sweadner of the Carnegie Museum the present writer was able to study these typhlocybine types deposited in that collection. The study revealed, first, that many of the species were associated with genera to which they exhibited little relationship and, second, that most of the species were not described so that other workers in the group could make use of the names.

The first problem has been treated in the generic classification mentioned above. The second is dealt with in this paper. Unfortunately, some of the species were described from females, and no specimens other than the types have been seen. For these species the very useful characters to be found in the male genitalia cannot be described at the present time. Unfortunately also, most of the specimens were in very poor condition presumably at the time they were originally described, which was probably a strong contributing factor to the numerous erroneous generic, and even tribal, placements. In many specimens the wing apices were badly damaged or wanting, some of them appearing singed off, perhaps as a result

(1) Young, David A., Jr. A Reclassification of Western Hemisphere Typhlocybinae. Univ. Kans. Sci. Bul. 35(1):10-217. 1952.

of contact with the light at which they were collected. In some specimens similar damage to the genitalia has made it impossible to describe these structures completely. In a very few cases material from other collections has contributed additional specimens of use in the descriptions.

The writer assumes that his generic classification will be available to the student in connection with the descriptions that follow, and the terminology and technic are identical in the present work. Figures in the earlier work may be consulted for comparison, especially in cases involving venational characters. It is especially to be noted that the apical cells of the forewing are numbered from commissural margin to costal margin in the following descriptions. Descriptions of the genital capsule were made from macerated, stained specimens.

The types of fourteen of Osborn's sixty-four new species of Typhlocybinae were placed in the Osborn collection, and these have not been available for the present study.

Part of the present work was completed at the University of Kansas, and some of the drawings were inked by Mrs. Barbara Rozen of that institution.

Hadralebra laticeps (Osborn)

Dikraneura (*Hyloidea*) *laticeps* Osborn. Ann. Carnegie Mus. 18 (2) :277. 1928.
Hadralebra laticeps; Young. Univ. Kansas Sci. Bull. 35 (1) :19. 1952.

Except for the wings, which are badly damaged in the holotype, this species has been adequately described and illustrated in the generic description in the second publication cited above. The placement of the genus in the Alebrini is tentative, and may have to be changed when more material becomes available.

Balera pellucida (Osborn)

Dikraneura pellucida Osborn. Ann. Carnegie Mus. 18 (2) :271. 1928.
Balera pellucida; Young. Univ. of Kansas Sci. Bull. 35 (1) :26. 1952.

This species has been characterized and illustrated in the second work listed above. It was described from a single male. An additional topotypic male has been examined from the Carnegie Museum material. The species has the facies of an *Empoasca.*

Balera emarginata (Osborn), new combination

(Pl. I, fig. 1)

Empoasca emarginata Osborn. Ann. Carnegie Mus. 18 (2) :286. 1928

Hind wings: As in genotype.

Forewings: As in genotype, but third apical cell with lateral margins gradually convergent from base to apex, and with outer apical cell incompletely closed at base.

Genital capsule: Male plates with lateral margins broadly seriate longitudinal discal macrosetae beginning on basal fourth ending just before apex, and longitudinal row of microsetae arising laterad of these on internal face of plate on middle half; mesal margin curved posterodorsad at apex, forming dorsoapical short acute process; in lateral aspect plates exceeding pygofer, including its processes. Pygofer short, with midposterior margin extended posteriorly in gradually tapering process curving sharply dorsad at apex, the tip sharply rounded, with few marginal irregularly spaced small setae posterodorsally and group of microsetae arising near center of posterior half of disc, extending caudad over basal portion of pygofer process. Anal hooks absent.

Internal male genitalia: Style slender, without preapical lobe or apical extension, sigmoid, the apex directed ventrad, greatly exceeded by elongate aedeagus, with few preapical microsetae in short row along ventral face. Connective Y-shaped, occurring in transverse plane, the aedeagal articulation terminal. Aedeagus elongate, slender; preatrium short; shaft extending posterodorsad on basal portion, then curved and extending caudad through greater portion of its length; with pair of flattened lateral processes and pair of posterodorsal cylindrical processes both at apex; gonopore oval, preapical, dorsal; dorsal apodeme elongate.

Except for the slender aedeagus, this species is very similar to *Balera pellucida* (Osborn), upon which the genus was based.

Elabra eburneola (Osborn)

Protalebra eburneola Osborn. Ann. Carnegie Mus. 18 (2) :257. 1928.
Elabra parana; Young. Univ. of Kansas Sci. Bull. 35 (1) :35. 1952.

Hind wings: Venation as in *Protalebra decorata* (Osborn) (pl. III, fig. 7-E).

Forewings: Appendix not extending around wing apex, much broader at apex than at base. Inner apical cell angulate at base, its outer margin gradually divergent from inner margin through more than half length of cell, inner and outer margins subparallel apically. Second apical cell with base rectilinear, sides almost parallel, short, less than half length of inner apical cell. Third apical cell with sides divergent, base rectilinear, apex not attaining apical wing margin. Outer apical cell trapezoidal. Cell M with apical width several times apical width of cell R, extending distad more than half length of adjoining inner apical cell.

Genital capsule: Male plates extending caudad beyond apex of pygofer, broad basally, their lateral margins convergent on basal half, subparallel on apical half to narrowly rounded apices, each plate with longitudinal row of macrosetae, progressively diminishing in size on apical half of plate, extending parallel to and near lateral margin, in ventral aspect, crossing disc near midlength, parallel to and near mesal margin on apical third; in lateral aspect, plate with few dorsad-projecting elongate ciliate setae in group on basal fourth near dorsal margin, and similar group of setae near apex, with numerous irregularly arranged microsetae between dorsal margin and the more ventral macrosetae. Pygofer not greatly produced, with short ventral and long posteroventral margins, posterodorsal margin very short; with large group of irregularly arranged macrosetae extending from disc to posterodorsal margin, group of microsetae on lower half of disc, short linear group of few microsetae along middle of posteroventral margin, and similar group near lower limit of posteroventral margin. Pygofer with dorsal portion of caudal margin more heavily sclerotized to form base of pygofer hook, the apex free from inner face of pygofer, and directed mesad, short, acute apically in caudal aspect. Anal hooks slender, short, scarcely differentiated.

Internal male genitalia: Style, in dorsal aspect, slender, without preapical lobe or apical extension, bowed slightly laterad at midlength, slightly mesad at apex; in lateral aspect curved sharply ventrad just posterior to connective, then extending straight caudad to tapered acute decurved apex. Connective, in dorsal aspect, in form of transverse bar with apex turned slightly dorsad, the aedeagal articulation subterminal. Aedeagus with elongate preatrium; dorsal apodeme, in anterior aspect, semicircular; shaft slender, extending dorsad to apical fifth which is smoothly curved caudad, with pair of short, obliquely divergent acute processes arising from shaft at base of apical fifth; gonopore terminal.

This species has been illustrated in the second work listed above.

Elabra sarana (Osborn)

(Pl. I, fig. 2)

Dikraneura sarana Osborn. Ann. Carnegie Mus. 18 (2):268. 1928.
Elabra sarana; Young. Univ. of Kansas Sci. Bull. 35 (1):35. 1952.

Hind wings: The hind wings of the type were so badly damaged that the venation at the wing apex could not be determined. Vannal veins separate apically. Submarginal vein present, its apical extent undetermined.

Forewings: Appendix extending to wing apex. Inner apical cell sessile, widening gradually over basal half, almost parallel-

margined on apical half, approximately twice length of second apical cell. Second apical cell quadrangular, longer than broad, lateral margins parallel. Third apical cell short, triangular, its apex scarcely attaining apical wing margin. Outer apical cell pentagonal, its length and width subequal, its base more distad than base of inner apical cell. Cell M with apex transverse, occurring opposite midlength of inner apical cell, its greatest preapical width more than twice that of cell R.

Genital capsule: Male plate, in ventral aspect, with uniconvex on basal two-thirds, subparallel to narrowly rounded apex on apical third, each with linear group of submarginal macrosetae beginning near base and extending to slightly beyond midlength of plate; in lateral aspect, plate with few elongate slender dorsad-projecting microsetae near apex of basal fourth of length, and similar setae at extreme apex, with numerous setae of various sizes dispersed over lateral aspect of plate from near base to apex, dorsal margin with distinct lobe at apex of second third of length of plate. Pygofer short, greatly exceeded by apices of plates, with ventral margin not delimited, the posterior margin rounding convexly to base of male plate to form a posteroventral margin, its apex differentially sclerotized to form an anteroventrad-projecting acute pygofer hook suddenly narrowed at its point of separation from pygofer margin, the free part gradually narrowed to acute apex; with an irregular group of macrosetae extending from middle of pygofer disc posterodorsad towards posterodorsal margin, group of microsetae on lower half of disc, and two cuspidate projections from posteroventral margin near its base. Anal hooks wanting.

Internal male genitalia: Style elongate, slender, in dorsal aspect tapered gradually to narrowly rounded apex; in lateral aspect with extreme apex sharply decurved, acute, the preapical dorsal margin broadly convex on apical half. Connective in form of semicircle, the apex turned dorsad, the aedeagal articulation near-terminal. Aedeagus with preatrium short; dorsal apodeme with two divergent arms directed posterolaterad; shaft, in lateral aspect, gradually tapered from atrium to apex, curved posterad apically; in dorsal aspect slightly constricted distad of apodeme, then gradually expanded, narrowed at apex; with a pair of flattened truncate processes broader at apex than at base in lateral aspect, arising before apex and extending obliquely laterad.

This species may be distinguished readily from those already described by the relatively broad aedeagal shaft, the short preatrium, and the well-developed pygofer hook.

Elabra parâna (Osborn)

(Pl. I, fig. 3)

Dikraneura parana Osborn. Ann. Carnegie Mus. 18 (2) :268. 1928.
Elabra eburneola; Young. Univ. of Kansas Sci. Bull. 35 (1) :35. 1952.

Hind wings: As in *Protalebra decorata* (Osborn) (pl. III, fig. 7-E).

Forewings: As in *Elabra eburneola* (Osborn).

Genital capsule: Male plates greatly exceeding apex of pygofer, in ventral aspect with lateral margins convex on basal half, sharply convergent at midlength, subparallel to narrowly rounded apices on apical half; with oblique group of macrosetae beginning submarginally near base and ending discally beyond midlength of plate, a few of the preapical setae larger, more heavily sclerotibed. and with apices almost rounded; in lateral aspect, with group of elongate ciliate setae in close-set group dorsad of larger macrosetae of the oblique series, linear group of ventral regularly spaced small setae extending to apex of plate, few short ciliate setae near dorsal margin of plate beyond basal fourth, and numerous dispersed microsetae over apical half. Pygofer extended caudally, with posteroventral margin elongate, convex, bearing few submarginal microsetae, ventral margin not well-differentiated; posterodorsal margin distinct; group of macrosetae extending from pygofer disc to near posterodorsal margin, group of slender microsetae on disc dorsad of basal fourth of length of plate. Pygofer hooks wanting. Anal processes simple, straight, not heavily sclerotized.

Internal male genitalia: Style short, in dorsal aspect with outer margin converging towards inner margin near apex, the entire apical portion curved slightly laterad, the apex rounded. Connective in form of cross bar with apex turned dorsad, the aedeagal articulation subterminal. Aedeagus with preatrium elongate; shaft very elongate, slender, gradually tapered, with pair of lateroventral short processes basad of midlength; dorsal apodeme mushroom-shaped in anterior aspect, slender in lateral aspect, well-developed, heavily sclerotized; bulbus and ductus ejaculatorius preserved in macerated specimens.

This species is closely related to *Elabra eburneola* from which it may be distinguished readily by the point of origin of the processes of the shaft of the aedeagus. The origin is on the apical half in *E. eburneola.*

Elabra attenuata (Osborn)

(Pl. II, fig. 4)

Dikraneura attenuata Osborn. Ann. Carnegie Mus. 18 (2) :269. 1928.
Dikraneura albidula Osborn. *Op. cit.,* p. 271.
Elabra attenuata; Young. Univ. of Kansas Sci. Bull. 35 (1) :35. 1952.

Hind wings: The apical venation could not be determined from the damaged wings of the type and the type of its synonym. The anteapical venation is typical for the genus.

Forewings: Appendix not extending around wing apex. Inner apical cell broader than second apical cell, scarcely narrower basally than at apex. Second apical cell oblique basally, parallel-sided. Third and fourth apical cells trapezoidal, the third scarcely attaining apical wing margin. Greatest width of cell R exceeding that of cell M.

Genital capsules Male plates, in ventral aspect, very elongate, slender, their lateral margins convexly convergent on basal third, almost parallel over apical two-thirds to narrowly rounded apices, each with linear group of submarginal macrosetae on basal third and group of irregularly arranged macrosetae on disc of apical half except extreme apex; in lateral aspect, with close-set group of microsetae on dorsal margin near apex of basal third, and second group of more numerous close-set microsetae slightly more distad; with additional setae of various sizes arranged near dorsal and ventral margins on apical half. Pygofer elongate, extending almost as far caudad as plate apices, with dorsal margin very long, posteroventral margin broadly convex, elongate, ventral margin not delimited, with oblique group of numerous irregularly arranged macrosetae extending from disc posterodorsad to dorsal margin near apex, group of widely spaced microsetae on disc near base, and linear group of irregularly spaced small setae along dorsal quarter of posteroventral margin. Pygofer hooks wanting. Anal hooks wanting.

Internal male genitalia: Style, in dorsal aspect, narrow through basal third of its length, very broad near middle, with lateral margin gradually convergent towards mesal margin over apical half, apex curved smoothly posterolaterad. Connective anchor-shaped, extending anteroventrad, the aedeagal articulation terminal. Aedeagus with preatrium very long, with joint-like portion near its midlength, the apex of the preatrium continued beyond atrium as elongate unpaired, slender, tapering process, broadly and slightly curved dorsad, its apex acute; atrium, in lateral aspect, appearing to rest upon the ventral process; shaft abruptly narrowed at apex of basal third, flagelliform over apical two-thirds; dorsal apodeme not distinct.

Elabra quadrifasciata (Osborn)

(Pl. II, fig. 5)

Dikraneura quadrifasciata Osborn. Ann. Carnegie Mus. 18 (2):272. 1928.

Elabra quadrifasciata; Young. Univ. of Kansas Sci. Bull. 35 (1) :35. 1952.

Hind wings: Except for the extreme apex which is damaged in all specimens available, venation as in the genotype except that the short preapical cross-vein between posterior branch of R and M_{1+2} is nearly obliterated by approximation of the two longitudinal veins.

Forewings: Venation as in *Elabra parana* Osborn (see pl. 1, fig. 3-D) except that inner apical cell is not conspicuously narrowed in basal half and preapical width of cell M, as a result, does not greatly exceed that of cell R.

Genital capsule: Male plates, in ventral aspect, with lateral margins convex on basal third, gradually convergent on middle third, nearly parallel on apical third to sharply rounded apices; each with linear series of submarginal macrosetae over middle half, linear group of smaller setae along lateral margin at apex of basal third, and numerous irregularly arranged microsetae occurring laterad of macrosetae and extending to apex. Pygofer not extending as far caudad as apex of male plate, somewhat angularly extended posteriorly above midlength of posterior margin, posterodorsal and posteroventral margins shallowly concave; with irregularly spaced macrosetae over posterodorsal quarter of disc, an irregular linear series of submarginal microsetae along posteroventral margin, and group of minute microsetae on disc dorsad of outer basal angle of male plate. Pygofer hook, in lateral aspect, appearing as integral differentially sclerotized portion of pygofer wall, tapered and recurved apically; in caudal aspect, appearing as broad arched pediform process. Anal hooks vestigial.

Internal male genitalia: Style, in dorsal (narrow) aspect, with dorsal carina on dorsal face over more than half length, the basal portion appearing narrowed as a result, mesal margin broadly convex on apical fourth to broadly rounded apex, with few small alveoli on dorsolateral face before apex; in broad aspect, ventral margin gradually divergent to point just posterior to midlength, then convergent to acuminate decurved apex. Connective inverted, shortened T-shaped, the aedeagus articulating with the anterior extremity. Aedeagus with preatrium greatly elongate, decurved at base, giving off two pairs of processes beyond midlength: a pair of processes slender and gradually tapering to acute apices, crossed apically in lateral aspect, and a pair of shorter slender tapering processes arising slightly basad of these and diverging asymmetrically (in the holotype) from point of origin. Shaft elevated on pedicel, extending dorsad from preatrium near origin of anterior pair of preatrial processes; shaft short, gradually tapered; dorsal

apodeme in caudal aspect semioval in form, with a median dorsal acute elevation, its sides extending partly around, but separate from, atrium. Bulbus and ductus ejaculatorius preserved in macerated specimens.

In genital structure, this species appears to be closely related to *Elabra attenuata* (Osborn).

Elabra parallela (Osborn)

(Pl. II, fig. 6)

Dikraneura parallela Osborn. Ann. Carnegie Mus. 18 (2):274. 1928.
Elabra parallela; Young. Univ. of Kansas Sci. Bull. 35 (1):35. 1952.

Hind wings: As in genotype.

Forewings: As in *Elabra parana* (see pl. I, fig. 3), but inner apical cell not so greatly narrowed at base.

Genital capsule: Male plates, in ventral aspect, with lateral margins convex on basal half, broadly convex on apical half, the plates appearing slightly constricted near midlength, apices narrowly rounded; each with a group of macrosetae begining near base, extending submarginally near lateral margin to constriction, there across disc and ending in few small setae near mesal margin, a few of these before apical ones more heavily sclerotized; a cluster of very slender setae extending dorsad from lateral margin approximately at basal third, with numerous microsetae irregular in size and arrangement over apical two-thirds of disc. Pygofer extending almost as far distad as plates, with posterodorsal portion extended posteriorly and angular; posterior margin smoothly convexly merging with ventral margin which is not clearly delimited as a result; posterodorsal margin slightly sinuous basad of posteriorly extended portion; with macrosetae arising from near center of disc and extending obliquely posterodorsad, group of microsetae just dorsad of outer basal angle of male plate, and with few small setae on posterodorsal angle. Pygofer processes wanting. Anal hooks vestigial.

Internal male genitalia: Styles together appearing somewhat bowed, divergent on basal half, convergent on distal half, the apices curved slightly ventrolaterad and narrowed to sharply rounded tips. Connective in form of cross bar, the aedeagal articulation almost terminal. Aedeagus with preatrium elongate, flattened in horizontal plane, in lateral aspect broadened apically; shaft elongate, very slender, slightly sinuate, with pair of slender processes, truncate apically, arising at base of apical fourth and extending posterodorsad; dorsal apodeme in anterior aspect surmounting atrium as transverse plate, broadened dorsally, in la-

teral aspect with pair of posterolateral lobes extending posterad.

This species was described from a single specimen from Bolivia. An additional specimen, from Tena, Ecuador, has been examined from the collection of the Hawaiian Sugar Planters' Association.

Habralebra terminalis (Osborn)
(Pl. III, fig. 8)

Alebra terminalis Osborn, Ann. Carnegie Mus. 15 (4):451. 1924.

Hind wings: As in *Protalebra decorata* (Osborn) (pl. III, fig. 7-E).

Forewings: Appendix not extending around wing apex. Inner apical cell large, elongate, almost twice length of second apical cell. Second apical cell angular basally, gradually broadened apically, exceeding in size combined third and fourth apical cells. Third apical cell slender, curved laterad, parallel-margined, not attaining wing apex. Outer apical cell small, subtrapezoidal, its base concave.

Genital capsule: Male plates, in ventral aspect, elongate, very slender, lateral margins gradually convergent on middle third, almost parallel on apical third to narrowly rounded apices, each with linear group of small macrosetae subparallel to lateral margin from near base to apical third; in lateral aspect each with group of numerous long slender microsetae below dorsal margin, extending from near base to midlength of plate, few dispersed microsetae at apex and before apex. Pygofer nearly as long as plates, with diagonal row of discal macrosetae and few similar setae along posterodorsal margin, group of microsetae just dorsad of outer basal angle of male plate; dorsal pygofer margin convexly rounded, posteriorly, to sinuous ventral pygofer margin; ventral margin inrolled, differentially sclerotized, giving rise to pygofer hook at base of apical fourth of length of pygofer. Pygofer hook, in lateral aspect, extending straight caudad, exceeding apex of pygofer; in dorsal aspect, hook free from inner face of pygofer, curved mesad, then caudad. Anal hooks wanting.

Internal male genitalia: Style, in broad aspect, parallel-margined to apical extension, slightly curved from base to apex; preapical lobe subquadrate; apical extension with margins gradually convergent to sharply rounded apex. Connective U-shaped, the aedeagal articulation nearly terminal, slightly ventral. Aedeagus broad basally, gradually tapered, smoothly curved dorsad, then caudad, the extreme apex acicular and curved ventrad; preatrium very short; dorsal apodeme not well-developed; ventral aedeagal margin with short unpaired cuspidate process arising almost per-

pendicularly from margin near apex of basal half; shaft with dorsal margin ornamented with number of minute serrations. Gonopore terminal.

Protalebra decorata (Osborn)

(Pl. III, fig. 7)

Alebra decorata Osborn. Ann. Carnegie Mus. 18 (2):255. 1928.
Protalebra decorata; Young. Univ. of Kansas Sci. Bull. 35 (1):37. 1952.

Hind wings: Vein IV branching from vein 2V near its base. Submarginal vein present at wing apex, almost confluent with apical wing margin, confluent with apex of posterior branch of vein R. Veins R and M nowhere confluent, connected by a cross-vein in basal portion of apical fourth of wing length. Vein Cu_1 not confluent with apical portion of vein M_{3+4}, the m-cu cross vein oblique. Vein Cu_2 confluent with submarginal vein near midlength of wing, much basad of vein m-cu.

Forewings: Appendix not extending around wing apex. First and second apical cells elongate, parallel-sided, the base of the first angulate. Third apical cell short-stalked, triangular, its apex subtending a preapical portion of costal margin. Outer apical cell trapezoidal, not attaining wing apex. Preapical widths of discal cells subequal.

Genitalia capsule: Male plate with oblique group of discal macrosetae flattened and rounded at apices and with numerous irregularly arranged microsetae, short on disc, long and fine on apex. Pygofer with two groups of macrosetae, one near center of disc and one posterodorsad of this, two groups of microsetae, one on disc dorsad of outer basal angle of male plate and smaller group more posterior; posterior pygofer margin sinuate. Pygofer hook arising ventrally, extending dorsocaudad, free form inner face of pygofer except at origin, slender, cylindrical, with acute apex. Anal hooks wanting.

Internal male genitalia: Style without preapical lobe or apical extension, tubular, slightly constricted near midlength in dorsal aspect, mesal margin convexly rounded to lateral margin at apex, dorsal face with few small preapical alveoli, sigmoid in lateral aspect, the apex directed posteroventrad. Connective in form of trapezoid, but with pair of apical lobes turned dorsad, the aedeagal articulation subterminal, below these. Aedeagus with preatrium elongate, shaft elongate, very slender, gradually tapering; dorsal apodeme elongate, slender; aedeagus completely without processes.

Protalebra fulveola Osborn

Protalebra fulveola Osborn. Ann. Carnegie Mus. 18 (2) :256. 1928.

Unfortunately, the abdomen was missing from the holotype of this species, and this was the only specimen seen. It probably belongs in the Dikraneurini, for the vannal veis are fused. There is no appendix in the forewing.

Protalebra clitellaria Osborn

(Pl. III, fig. 9)

Protalebra clitellaria Osborn. Ann. Carnegie Mus. 18 (2) :257. 1928.

Hind wings: Similar to *Protalebra decorata* Osborn, but the apex missing. The apical extent of the posterior branch of R, and the condition of the submarginal vein at the wing apex could not be determined.

Forewings: The forewings were damaged to the extent that no observations could be made beyond the fact that an appendix is present.

Genital capsule: Male plates short, greatly exceeded by pygofer; in ventral aspect with lateral margins subparallel over basal half, abruptly convergent in third quarter to rounded apices, each with submarginal row of flattened macrosetae, rounded at their apices, in third quarter of its length; in lateral aspect, plate with group of close-set elongate ciliate microsetae near dorsal margin at midlength, and with apical small setae irregularly arranged. Pygofer, in lateral aspect, greatly produced at dorsum; ventral margin short; posteroventral margin elongate; with large group of small microsetae on disc on basal half and with group of macrosetae extending irregularly from disc obliquely posterodorsad to dorsal margin in apical half. Pygofer with slender processes, one on each side, extending mesad from near middle of dorsal margin. Anal hooks elongate, slender, extending parallel to posteroventral pygofer margin.

Internal male genitalia: Style, in dorsal aspect, short, broader at midlength, gradually narrowed posteriorly to point just anterior to truncate apex, with few extremely minute setae on disc of dorsum near midlength, without preapical lobe or apical extension; in lateral aspect, style apex curved slightly ventrad. Connective nearly semicircular in form, the apex elongate and narrow, turned dorsad, the aedeagal articulation subterminal. Aedeagus with preatrium wanting; dorsal apodeme Y-shaped, sigmoid at base, the rami as long as the stem and decurved apically; a pair of elongate atrial processes extending beneath dorsal apo-

deme, also decurved at apex; shaft very elongate, twice length of atrial processes, very slender, setose. Bulbus ejaculatorius and ductus preserved in macerated specimens.

This species must remain in *Protalebra* until more material for study can be obtained.

Protalebra aureovittata (DeLong)

Alebra aureovittata DeLong, *in* Wolcott. Journ. Dept. Agr. Porto Rico 7 (1) :267. 1923.
Protalebra pallida Osborn. Ann. Carnegie Mus. 18 (2) :260. 1928.
Protalebra aureovittata; Osborn. Journ. Dept. Agr. Puerto Rico 13 :105. 1929.

The writer has had no opportunity to study this species, to date. The above synonymy is that given by Professor Osborn.

Protalebra picea Osborn

Protalebra picea Osborn. Ann. Carnegie Mus. 18 (2) :265. 1928.

Hind wings: Venation similar to that of *Protalebra decorata* Osborn (pl. III, fig. 7-E), but with Cu_2 confluent with submarginal vein at point more distad, nearly opposite vein m-cu.

Forewings: Appendix not extending around wing apex. Inner apical cell angulate at base, its lateral margins parallel, width uniform throughout, length greatly exceeding width. Second apical cell almost as long as first, elongate, slender, its lateral margins gradually divergent from base to apex. Third apical cell elongate-triangular, short-stalked. Outer apical cell pediform, not attaining apical wing margin. Cell M extending slightly more distad than cell R, its apex not much more distad than base of inner apical cell; cells R and M with preapical (greatest) width subequal. Cell R obliquely truncate at apex.

Protalebra sublunata (Osborn)

(Pl. IV, fig. 10)

Erythroneura sublunata Osborn. Ann. Carnegie Mus. 18 (2) :289. 1928.
Protalebra sublunata; Young. Univ. of Kansas Sci. Bull. 35 (1) :38. 1952.

Color: Head, including face, ivory white except black spot at apex of crown. Ground color of pronotum and basal half of forewings bright orange; narrow posterior margin of pronotum, scutellum except apex, large transverse marking beginning narrowly at midlength of corium on each forewing, becoming much broader in apical half of clavus to commissural margin, and small spot basad of this on costal margin, ivory white; apex of scutellum

narrowly black; midlength of costal margin narrowly suffused with sanguineous; apical half of forewing hyaline, suffused with smoky.

Hind wings: As in *P. decorata* (see pl. III, fig. 7-E).

Forewings: Appendix not extending around wing apex. Inner apical cell broad basally, its basal width half width of wing, gradually narrowed apically. Second apical cell angular at base, gradually broadened to apex, elongate, slender, shorter than inner apical cell. Third apical cell petiolate, its apex subtending apex of costal margin. Outer apical cell roughly semicircular, its base more distad than base of inner apical cell.

Only the holotype, a female, has been seen by the writer. Its true affinities are therefore unknown at present, and it is retained provisionally in *Protalebra*.

Parallaxis ornata Osborn

Parallaxis ornata Osborn. Ann. Carnegie Mus. 18 (2):266. 1928.

No males of this species have been seen. In addition to the specimens listed by Osborn, a female specimen from British Honduras has been examined, from the Pomona College Collection. The species has markings somewhat similar to those of *Parallaxis respersa* var. *respersa* McAtee, from which it may be distinguished by the fact that the orange markings of the forewings are not bordered with fuscous as they are in the McAtee species.

Parallaxis rufula Osborn

(Pl. IV, fig. 11)

Parallaxis rufula Osborn. Ann. Carnegie Mus. 18 (2):267. 1928.

The apices of both pairs of wings of both available specimens were apparently scorched off.

Hind wings: Vannal veins fused. Submarginal vein present (its apical extent unknown). Posterior branch of vein R fused with vein M_{1+2} apically. Vein Cu_1 not fused with apical portion of vein M_{3+4} (vein Cu_1 appearing branched apically). Vein Cu_2 confluent with submarginal vein near midlength of wing, much basad of vein m-cu.

Forewings: All apical cells sessile. First and second apical cells angulate basally. First, second and third apical cells with bases successively more distad. Base of outer apical cell opposite base of third apical cell. Cell R extending more distad than cell M, their preapical (greatest) widths subequal. Vein B branching from vein R opposite basal third of clavus. Two claval veins present, approximate at midlength of the inner, the outer confluent with inner wing margin in apical half of clavus.

Genital capsule: Male plates ample, in ventral aspect, triangular, their lateral margins smoothly convergent throughout their lengths, to narrowly rounded apices, with row of widely spaced marginal setae over apical half of each plate; in lateral aspect with longitudinal row of submarginal slender elongate setae over middle half, and few irregularly arranged microsetae before apex. Pygofer slender and elongate, extending almost as far distad as plate apices, its posterior portion narrowed gradually to digitate apex directed posterodorsad; with few scattered microsetae over disc, a close-set group of microsetae dorsad of ventral margin above apex of basal fourth of male plate, and small tuft of similar setae at extreme pygofer apex. Pygofer hooks wanting. Anal processes very weakly sclerotized.

Internal male genitalia: Style slender, elongate, with a basal lobe opposite opening of lumen, the portion distad compressed, gradually curved mesad to truncate apex. Connective V-shaped, lying in plane at right angles to long axis of styles, with a dorsad-projecting bar from each arm. Aedeagal articulation on posterior face of connective apex. Aedeagus elongate, slender, preatrium almost as long as shaft, entirely without processes. Dorsal apodeme cylindrical, not heavily sclerotized.

This species is retained in *Parallaxis* for convenience only. If it is dikraneurine, it belongs among the vannal-vein-losers, presumably related to *Buritia* and *Saranella*. The styles are without a suggestion of a preapical lobe, and the slight basal lobe is suggestive of the basal lamella found in *Saranella*. The connective resembles that found in *Diyraneura* (*sens. st.*). A more satisfactory generic placement must await the collection of specimens with entire wings.

In spite of the fact that the original description cites type and paratype, both specimens, with identical collection data, bear "type" labels, one on a red label, the other on a determination label. The specimen bearing the red "type" label is here designated lectotype.

Kunzeana rosea (Osborn)

(Pl. IV, fig. 12)

Dikraneura (*Hyloidea*) *rosea* Osborn. Ann. Carnegie Mus. 18 (2):278. 1928.

Kunzeana rosea; Young. Univ. of Kansas Sci. Bull. 35 (1):53. 1952.

Wings: Typical of the genus.

Genital capsule: Male plates, in ventral aspect, with lateral margins gradually convergent on basal half, parallel to mesal margins of apical half to broadly rounded apices, each with small

group of macrosetae laterad of disc near apex of basal half, numerous irregularly arranged short microsetae over disc of apical half, few longer microsetae in row along lateral margin on basal half. Pygofer short, considerably exceeded apically by apices of plates; posterodorsal and posteroventral margins rectilinear, converging to narrowly rounded posterior pygofer lobe; ventral pygofer margin not delimited; with few small setae along margin of posterior pygofer lobe. Pygofer hooks short, triangular, arising internally from pygofer wall along oblique posterodorsal margin, extending caudad and slightly mesad. Anal hooks wanting.

Internal male genitalia: Style narrow through middle half its length, broader basally and apically; in broad aspect with preapical lobe broadly convex; apical extension slightly curved caudolaterad, conical, the apex narrowly rounded, with few microsetae arranged in longitudinal row on broad dorsal face. Connective broadly U-shaped, with apex curved dorsad, the aedeagal articulation subterminal. Aedeagus without preatrium; shaft appearing very broad and compressed dorsoventrally, the apex, in broad aspect broadly rounded and slightly emarginate medially; gonopore ventral and near base of flattened portion, with pair of longitudinal ridges extending from it, along ventral face of flattened portion, to apex; flattened portion giving off pair of lateroventral bifid processes from beyond its midlength, these pediform in lateral aspect, the " toe " directed distad; dorsal apodeme platelike, flattened transversely, with pair of dorsolaterad-directed arms.

Endoxoneura splendidula (Osborn)

Dikraneura (*Hyloidea*) *splendidula* Osborn. Ann. Carnegie. Mus. 18 (2): 275. 1928.

Endoxoneura splendidula; Young. Univ. of Kansas Sci. Bull. 35 (1):54. 1952.

The genus *Endoxoneura* was erected by the writer in the second paper cited above, to include this species. The characters were adequately described and illustrated there, and need not be repeated here.

Endoxoneura lineata (Osborn), new combination

(Pl. IV, fig. 13)

Dikraneura (*Hyloidea*) *lineata* Osborn. Ann. Carnegie Mus. 18 (2):278. 1928.

Hind wings: The venation could not be determined from the mangled holotype.

Forewings: Appendix absent. Inner apical cell much longer

than broad, angular at base, apex attaining apical wing margin. Second apical cell elongate, slender, narrower than either first or third apical cells. Third apical cell subequal in length to second, sessile, becoming gradually broader from base to apex. Outer apical cell in form of trapezium, not attaining apical wing margin, longer than broad. Discal cells with preapical (greatest) widths subequal.

Genital capsule: In ventral aspect, male plate with mesal margin much shorter than lateral margin; apex obliquely truncate with posterolateral papilliform extension directed posterodorsad; lateral margin broadly convex on basal half, broadly concave on apical half; row of small setae extending from near lateral margin obliquely towards center of disc on apical half of plate; in lateral aspect, papilliform projection clothed with minute microsetae, and few microsetae on disc of plate basad of projection. Pygofer extended posteriorly in its dorsal portion in elongate-triangular process with apex narrowly rounded, and ventral portion of base extended ventrad basad of and parallel to posterior pygofer margin to near midlength of latter, there abruptly expanded to form a ventral ramus extending posteroventrad then smoothly curved posterodorsad, gradually tapering to acute apex which exceeds male plate; ventral pygofer margin clearly delimited, lying almost at right angles to posterior pygofer margin; with small group of microsetae near posterodorsal margin and smaller group on disc dorsad of midlength of ventral margin. Anal hooks wanting.

Internal male genitalia: Style, in dorsal aspect, slightly exceeding apex of aedeagus, slender, without preapical lobe or apical extension; mesal margin broadly curved mesad over basal four-fifths, then extending posterad on apical fifth to obliquely truncate apex; lateral margin diverging from mesal margin on basal fifth, thence subparallel to it to narrower apical fifth; with few microsetae on dorsal face of narrowed apex. Connective papilioniform with apex turned dorsad, the aedeagal articulation subterminal. Aedeagus laterally compressed, except short broad preatrium; shaft short, gradually tapering to oblique apex; ventral margin irregularly minutely erose, dorsal margin sinuate; apex dorsad of subterminal gonopore with small domelike structure; preapical portion, dorsad of gonoduct, giving rise to pair of elongate slender, retrorse processes extending parallel to oblique posterior margin, not attaining ventral aedeagal margin; dorsal apodeme wanting.

This species is not properly placed in *Endoxoneura*. In the writer's recent key to the tribe, it comes out with *Kunzeana*. The shape of the style, the lack of a preapical lobe and of a dorsal apo-

deme, and the nature of the pygofer hooks suggest an affinity with *Endoxoneura,* from which it differs in other respects. It seems advisable to place the species here until more material has been collected, and the venation of the hind wings determined.

Donidea verticis (Baker)

Typhlocyba verticis Baker. Invertebrata Pacifica 1:8. 1903.
Dikraneura (Hyloidea) eburneola Osborn. Ann. Carnegie Mus. 18 (2): 276. 1928.
Donidea verticis; Young. Univ. of Kansas Sci. Bull. 35 (1):56. 1952.

This species has been adequately described and illustrated in the above recent publication by the writer.

Alconeura obliquata (Osborn)
(Pl. IV, fig. 14)

Dikraneura obliquata Osborn. Ann. Carnegie Mus. 18 (2):270. 1928.
Alconeura obliquata; Young. Univ. of Kansas Sci. Bull. 35 (1):58. 1952.

Hind wings: Typical for the genus.

Forewings: Inner apical cell almost triangular, the oblique base slightly angulate at its midlength, the cell, at base, extending cephalad almost to border of outer apical cell, its apex not attaining wing apex. Second apical cell triangular. Third apical cell triangular, short-stalked. Outer apical cell in form of truncate triangle, its apex not attaining wing apex. Preapical (greatest) width of cell R greatly exceeding that of cell M.

Genital capsule: Male plate, in ventral aspect, with oblique group of macrosetae in irregular double row on basal half, a regular row of close-set microsetae along lateral margin in basal fourth, and with ventral row of submarginal microsetae over apical half. Pygofer exceeded apically by apices of male plates; posteroventral margin smoothly convex, well-developed, rounded to base of male plate, the ventral margin not delimited; dorsal margin nearly rectilinear. Pygofer hook arising internally on posterodorsal pygofer wall before apex, very heavily sclerotized, bifid from near base, both rami acute at apex. Anal hooks wanting.

Internal male genitalia: Style short, broad, in dorsal aspect with mesal margin constricted near midlenght; preapical lobe rounded to apical extension which bears group of ciliate elongate microsetae on lateral margin; extreme apex sharply rounded. Connective Y-shaped in dorsal aspect; in lateral aspect with distinct lobe projecting from dorsal face of union of rami posterodorsad above "stem" of connective with which aedeagus articulates. Aedeagus with preatrium short, curved dorsad; shaft laterally com-

pressed, obliquely truncate at apex, giving off pair of sigmoid processes near its midlength, the processes broad at base, gradually tapered to sharply rounded apices, extending dorsad and caudad considerably beyond gonopore; dorsal apodeme, in lateral aspect, slender, slightly procurverd at apex, quadrate in form in caudal aspect.

Alconeura flavida (Osborn)

(Pl. V, fig. 15)

Dikraneura (*Hyloidea*) *flavida* Osborn. Ann. Carnegie Mus. 18 (2):277. 1928.

Alconeura flavida; Young. Univ. of Kansas Sci. Bull. 35 (1):58. 1952.

Wings: The complete venation of the wings of the badly damaged holotype could not be determined. The vannal veins are fused in the hind wings.

Genital capsule: Male plate, in ventral aspect, with lateral margin strongly convex on basal half, abruptly narrowed on second quarter of length, obliquely convergent to mesal margin on apical quarter, the extreme apex sharply rounded; with group of biseriate macrosetae extending from near base laterad of center of disc, across disc at midlength, continued diagonally apicad towards mesal margin as group of microsetae on apical half, with irregular linear group of microsetae along lateral margin over apical two-thirds. Pygofer short, greatly exceeded by apices of male plates, extended posteriorly in broadly rounded posterodorsal lobe, the posterodorsal and posteroventral margins broadly concave; ventral margin not delimited; with small group of submarginal microsetae along posterodorsal margin. Pygofer hook arising internally from posterodorsal pygofer wall, bifid in longitudinal vertical plane, both rami slender, tapering, curved gradually posterodorsad, gradually divergent. Anal hooks wanting.

Internal male genitalia: Style broad, short, extending only slightly more caudad than apex of connective, with distinct preapical lobe, the posterior margin, in dorsal aspect, obliquely convex to apical extension and with elongate submarginal setae characteristic of genus. Connective slender throughout, Y-shaped, with apex turned dorsad, the aedeagal articulation subterminal. Aedeagus without preatrium; short, slightly compressed laterally, curved posterodorsad on apical half; gonopore terminal, oblique, with pair of caliperate longer processes arising from rim ventrally and pair of shorter divergent processes arising from rim dorsally; dorsal apodeme small.

Dikrella affinis (Osborn)

(Pl. V, fig. 16)

Dikraneura affinis Osborn. Ann. Carnegie Mus. 18 (2) :269. 1928.
Dikrella affinis; Young. Univ. of Kansas Sci. Bull. 35 (1) :61. 1925.

HIND WINGS: Typical of the genus.

FOREWINGS: Holotype (female) and allotype with apical venation typical for genus. Third apical cell sessile in holotype; stalked in allotype.

GENITAL CAPSULE: Male plates, in ventral aspect with lateral margins smoothly concave (macerated specimens), gradually convergent on basal half, then gradually divergent to broadly rounded apices, each plate with oblique irregular line of macrosetae over disc of basal half, continued on apical half of disc as irregular group of microsetae, with row of close-set microsetae along lateral margin over basal two-thirds; in lateral aspect with few minute alveoli just posterodorsad of discal macrosetae and ventrad of lateral microsetae. Pygofer short, well-exceeded by apices of plates, with ventral margin distinct, slightly inrolled, forming angle with near-vertical posterior margin, disc with few dispersed microsetae on ventral half, few macrosetae near posterodorsal margin and on pygofer hook, with few close-set submarginal microsetae along posterior margin beneath pygofer hook. Pygofer hook not heavily sclerotized, posterodorsad in origin, extending caudad and curved slightly ventrad. Anal hooks wanting.

INTERNAL MALE GENITALIA: Style very short, in broad aspect much broader at apex than at base, its broad upper face trough-like and with characteristic bulla at lateral limit of preapical lobe; mesal apical extension short, abruptly tapered to acute apex; few microsetae basad of posterior margin between lateral bulla and mesal apical extension. Connective in form of cross bar, the apex turned sharply dorsal and bilobed, the aedeagal articulation subterminal. Aedeagus with preatrium elongate; shaft with few verrucose elevations, its apex with pair of slender tapering processes arising on anterior margin and extending posteriorly; dorsal apodeme laterally compressed, inverted hoof-shaped.

There is a possibility that the holotype and allotype represent different species, for the venation of the forewings is surprisingly different.

Osborn pointed out a great similarity in appearance between *Dikrella albonasa* (McAtee) and this species, but his color criteria for separation of the two species are not sound. Genital characters are quite distinct in the two species. McAtee's species has two pairs of aedeagal processes, a much more pronounced, almost

disjunct, preapical lobe on the style, and an apical extension of the style which is longer and more acicular.

Dikrella fumida (Osborn)

(Pl. V, fig. 17)

Dikraneura (*Hyloidea*) *fumida* Osborn. Ann. Carnegie Mus. 18 (2): 276. 1928.
Dkrella fumida; Young. Univ. of Kansas Sci. Bull. 35 (1): 61. 1952.

Hind wings: Typical of *Dikrella.*

Forewings: As in *Dikrella cockerellii* (Gillette) but with inner apical cell more ample basally, its base bordering cell R as a line, instead of as a point as in the Gillette species.

Genital capsule: Male plate broad at base, lateral margin broadly convex on apical four-fifths to narrowly rounded apex; with oblique group of macrosetae in double row on lateral portion of disc on second quarter of length, continued caudad as linear longitudinal group of microsetae along disc to mesal margin proximad of apex, around apex, and basad along lateral margin to basal fifth; few dispersed microsetae on disc near apex. Pygofer short, greatly exceeded apically by apices of male plates; posterodorsal margin extended posteriorly and rounded; posteroventral margin broadly concave; ventral margin not delimited; a group of small setae near posterior portion of posterodorsal lobe, and a small group of few microsetae near center of disc. Pygofer hook slender, elongate, acicular, arising along dorsal margin internally, extending caudad as far as apices of male plates. Anal hooks wanting.

Internal male genitalia: Style short, broad, its dorsal face trough-like and giving rise to slender apical extension from near its midlength, the extension slender, elongate, curved slightly mesad at apex in dorsal aspect, preapical lobe pronounced. Connective Y-shaped, the " stem " short with apex turned sharply dorsad, the aedeagal articulation subterminal. Aedeagus with preatrium short, shaft with median dorsal and pair of lateral carinae, the lateral carinae ending preapically at the gonopore which is subterminal, the dorsal carina extending distad of gonopore; with pair of sinuate ventral processes arising on shaft near base, extending almost to apex.

In addition to the holotype, from Bolivia, the writer has examined a short series of specimens from Nova Teutonia, Brazil, collected by Mr. Fritz Plaumann (in Univ. of Kansas and U. S. N. M. collections). The species was placed in *Dikrella* on the basis of the genitalia. The venation of the intact wings examined since, from the Brazilian series, confirms that disposition.

Idona hyalina (Osborn)

Dikraneura (*Hyloidea*) *hyalina* Osborn. Ann. Carnegie Mus. 18 (2): 276. 1928.
Idona hyalina; Young. Univ. of Kansas Sci. Bull. 35 (1):64. 1952.

This species, known only from the female holotype, has been placed in *Idona* in the second publication cited above, because of the venation of the hind wings.

Dikrellidia bilineata (Osborn)

Dikraneura bilineata Osborn. Ann. Carnegie Mus. 18 (2):270. 1928.
Dikrellidia bilineata; Young. Univ. of Kansas Sci. Bull. 35 (1): 65. 1952.

The genus was erected recently by the author for this species. The characters for the monobasic genus, and the illustrations, will suffice for identification. The species is similar to a *Dikraneura* (*sens. st.*) in form.

Neodikrella disconotata (Osborn)

Dikraneura (*Hyloidea*) *disconotata* Osborn. Ann. Carnegie Mus. 18 (2): 275. 1928.
Neodikrella disconotata; Young. Univ. of Kansas Sci. Bull. 35 (1):66. 1952.

This species, the type of a monobasic genus, has been described and illustrated in the second paper cited above.

Sarascarta fulva (Osborn)

Dikraneura (*Hyloidea*) Osborn. Ann. Carnegie Mus. 18 (2):277. 1928.
Sarascarta fulva; Young. Univ. of Kansas Sci. Bull. 35 (1):67. 1952.

HIND WNGS: Typical of the genus.

FOREWINGS: The venation was not observed in the two specimens available for study because of the homogeneity of the wing texture.

GENITAL CAPSULE: Male plate gradually narrowed from base to apex; in ventral aspect with lateral margin broadly convex on basal half, broadly concave on apical half to narrowly rounded apex, with diagonal monoseriate group of few macrosetae laterad of center of disc on second fourth of length of plate, and irregularly arranged microsetae on apical half; in lateral aspect with row of microsetae along dorsal margin. Pygofer dorsoventrally flattened, short, its apex not extending as far distad as plate apices, dorsal and ventral margins distinct; posterior margin extended posteriorly in elongate lobe bearing pygofer hook at its apex; disc with hori-

zontal group of microsetae from near middle almost to apex. Pygofer hook heavily sclerotized, arising from posterior pygofer lobe as abruptly differentially sclerotized portion, and supported by dorsal arm formed by thickening of dorsal (mesal) pygofer margin, extending posterodorsal in smooth curve, acute apically. Anal processes poorly developed.

Internal male genitalia: Styles caliperate, their inner margins abruptly narrowed at about midlength, without preapical lobe or apical extension, with few small alveoli along lateral face before apex. Connective elongate Y-shaped, its apex extending caudad beyond style apices, " stem " laterally compressed, aedeagal articulation terminal. Aedeagus short; preatrium wanting; shaft crescentiform; with pair of slender tapering atrial processes extending caudad, then curved dorsad, their apices lying along shaft at base of its apical third; gonopore terminal.

The genitalia of this species have been illustrated in the second paper cited above.

Saranella micronotata (Osborn)

Dikraneura (*Hyloidea*) *micronotata* Osborn. Ann. Carnegie Mus. 18 (2): 278. 1928.
Saranella micronotata; Young. Univ. of Kansas Sci. Bull. 35 (1): 69. 1952.

This species has recently been adequately characterized and illustrated as the genotype of a monobasic genus in the second paper cited above.

Erythroneura elegantula Osborn

Erythroneura elegantula Osborn. Ann. Carnegie Mus. 18 (2):289 1928.
Erythroneura elegantula; Beamer. Univ. of Kansas Sci. Bull. 24:277. 1938.

This species has been adequately described and figured by Beamer. Its occurrence in Panama is puzzling, for this record is far south of the Western Hemisphere distribution known otherwise for the genus.

Eualebra reticulata (Osborn)

Dikraneura (*Hyloidea*) *reticulata* Osborn. Ann. Carnegie Mus. 18 (2): 279. 1928.
Eualebra reticulata; Young. Univ. of Kansas Sci. Bull. 35 (1):104. 1952.

The wings are typical for the genus. The species was described from a single female from Januaria, Minas, Brazil. An additional female has been examined from Belem, Para, Brazil (collection of Hawaiian Sugar Planters' Association) .

Joruma fuscoclavata Osborn

Joruma fuscoclavata Osborn. Ann. Carnegie Mus. 18 (2) :281. 1928.

The holotype lacks the abdomen, and the wing apices are so badly damaged that its generic position could not be determined with certainty. The specimen has the facies of a *Joruma*.

Joruma nigricans Osborn

Joruma nigricans Osborn. Ann. Carnegie Mus. 18 (2) :281. 1928.

This species was described from two females and one male. The type is a female. The male allotype has the abdomen missing, and does not appear to be conspecific with the females. In color, it resembles closely the female allotype of *J. ascripta* McAtee and a male paratype of *J. neascripta* Oman. The females have a face which is black (perhaps originally "dusky olive" as originally described) and the basal half of the forewings yellow, the coloring extending to the costal margin of each wing and ending in a diagonal line from a point more basad on costal margin to a point more distad on commissural margin. In the male, the costal margin is narrowly devoid of yellow on the basal half of the wing, and the posterior margin of the yellow portion is transverse. The face of the male is pale, as are the hind legs. The hind legs of the females are black with a broad preapical tibial band and two apical joints of the tarsi white.

Joruma subaurata McAtee

Joruma subaurata McAtee; Osborn (misdetermined). Ann. Carnegie Mus. 18 (2) :284. 1928.

The six specimens which Osborn placed in this species were found to belong to the genus *Empoasca*.

Joruma (*Jorumidia*) *curvata* Osborn

Joruma curvata Osborn. Ann. Carnegie Mus. 18 (2) :284. 1928.
Joruma (*Jorumidia*) *curvada;* Young. Univ. of Kansas Sci. Bull. 35 (1) : 107. 1952.

The writer has based a new subgenus on this and one other species in the publication cited above. Characters and illustrations need not be repeated here.

In addition to the type series, from Brazil, specimens have been examined from Cuba (S. C. Bruner collection) and Costa Rica (U. S. N. M. collection).

Beamerana tropicalis (Osborn)

Erythroneura tropicalis Osborn. Ann. Carnegie Mus. 18 (2) :288. 1928
Erythroneura similis Osborn. *Op. cit.*, p. 289.
Beamerana tropicalis; Young. Univ. of Kansas Sci. Bull. 35 (1) :111. 1952.

This species has been adequately treated in the generic description based upon it, in the second publication cite above.

Empoasca picta Osborn
(Pl. V, fig. 18)

Empoasca picta Osborn. Ann. Carnegie Mus. 15 (4) :452. 1924.

Wings: The wing apices of the holotype were so badly damaged that the apical wing venation could not be determined.

Genital capsule: The male plates had only the basal portions preserved. These revealed a multiseriate group of discal macrosetae beginning on basal portion, a few small marginal setae directed dorsad along dorsal margin in lateral aspect, and a group of irregularly arranged microsetae between these two groups. Pygofer with posterior margin smoothly rounded posterodorsally, with group of posterodorsal marginal small setae and irregular group of sparse microsetae extending from these anteroventrad to near middle of disc. Pygofer processes arising anteroventrally from pygofer margin, extending posterodorsad, slightly exceeding posterior pygofer margin, in form slender, slightly compressed laterally, nearly parallel-margined, the acute apex formed by gradual convergence of dorsal margin to ventral margin in lateral aspect. Anal hooks wanting.

Internal male genitalia: Style slender, elongate, smoothly curved posterolaterad on apical half, gradually tapered to acute apex, with few minute preapical serrulae on dorsal face and few preapical microsetae on concave margin. Connective papilioniform with apex turned dorsad and aedeagal articulation subterminal. Aedeagus of *E. fabae* type, but with base of preatrium bent to form nearly a right angle, the basal portion shorter and horizontal, the apical portion longer and subvertical; preatrium elongate; shaft not well-differentiated in form, appearing as continuation of elongate preatrium.

The holotype is severely damaged. To date, it is the only specimen of this species examined by the author.

Empoasca decorata Osborn
(Pl. V, fig. 19)

Empoasca decorata Osborn. Ann. Carnegie Mus. 15 (4) :452. 1924.

Hind wings: The holotype had only the right pair of wings present, and of these, the apex of the hind wing was mutilated. As much of the venation as could be seen conformed with that of the genotype.

Forewings: Inner apical cell in form of elongate trapezium, its apex not attaining wing apex. Second apical cell sessile, angular at base, its lateral margins curved and parallel, its apex scarcely attaining wing apex. Third apical cell long-stalked, triangular, its apex embracing most of wing apex. Outer apical cell pentagonal, elongate. Apices of cells R and M opposite midlength of inner and outer apical cells, or slightly more distad.

Genital capsule: Male plate, in ventral aspect, with irregularly biseriate longitudinal group of macrosetae beginning on disc on basal third, becoming uniseriate and marginal along mesal margin on apical third; in lateral aspect with few small submarginal setae near dorsal margin near base, irregular linear group of microsetae parallel to dorsal margin over apical half, and with irregularly arranged microsetae mesad of these, on disc. Pygofer with posterodorsal margin bilobed, posteroventral margin slightly convex, almost rectilinear; with group of submarginal microsetae arranged in several irregular rows near and parallel to posteroventral margin; with few minute microsetae on disc. Pygofer processes arising near base of ventral pygofer margin, nearly straight, somewhat convergent posteriorly, pediform at apex in broad aspect, the toe directed posteromesad. Anal processes wanting.

Internal male genitalia: Style elongate, slender, gradually curved posterolaterad and tapered to expanded spoonlike apex, with few widely spaced elongate preapical microsetae along concave lateral margin and few alveoli on dorsal face. Connective papilioniform, with apex turned dorsad, the aedeagal articulation subterminal. Aedeagus as in *Empoasca picta* Osborn, but slightly more smoothly curved dorsad at base.

Empoasca fulvomaculata (Osborn)

(Pl. VI, fig. 20)

Alebra fulvomaculta Osborn. Ann. Carnegie Mus. 18 (2):255. 1928.
Empoasca fulvomaculata; Young. Univ. of Kansas Sci. Bull. 35 (1):117. 1952.

Forewingss A single longitudinal apical vein arising from transverse apices of discal cells, giving rise to a more anterior branch extending to costal margin and forming apex of outer apical cell, then forking near wing apex to form a short triangular second apical cell. Inner and outer apical cells not attaining wing apex.

Veins bordering apical cells greatly thickened, much broader than usual condition in this genus.

Genital capsule: Male plate with oblique double row of macrosetae over apical three-fourths, single submarginal row of irregularly spaced short stout microsetae parallel to lateral margin, and a number of irregularly spaced slender ciliate microsetae between these two groups from base to apex. Pygofer with few posterodorsal small setae, without setae over disc except few ciliate microsetae dorsad of base of male plate. Pygofer hook arising from ventral pygofer margin, slender, cylindrical, gradually tapered and smoothly curved dorsad to acute apex which slightly exceeds dorsal apex of pygofer. Anal hook heavily sclerotized, slender, crescentiform, its apex curved anteroventrad.

Internal male genitalia: Style, in dorsal aspect, curved slightly posterolaterad on apical third, appearing acute at apex, with few well-spaced setae along lateral margin of middle third, and few teeth on dorsal surface on apical fourth; in profile, apical teeth irregular in form and with apex irregularly obliquely truncate. Connective papilioniform, apex turned dorsad, aedeagal articulation subterminal. Aedeagus with preatrium elongate, shaft short, curved gradually dorsad, simple.

Emboasca pictifrons (Osborn)

(Pl. VI, fig. 21)

Alebra pictifrons Osborn. Ann. Carnegie Mus. 18 (2) :256. 1928.
Empoasca pictifrons; Young. Univ. of Kansas Sci. Bull. 35 (1) :118. 1952.

The wings of the holotype were so badly damaged that the venation could not be determined.

Genital capsule: Male plate, in ventral aspect, with multiseriate group of macrosetae beginning on disc near base and extending to apex, becoming uniseriate along mesal (ventral) margin at apex; in lateral aspect with few short setae on basal third arranged parallel to lateral margin, a row of very short stout microsetae arranged parallel to and near lateral margin on apical half and with numerous ciliate elongate discal microsetae arranged irregularly between these and the more ventrad macrosetae. Pygofer, in lateral aspect, with group of short setae on posterodorsal margin, a few widely spaced ciliate elongate microsetae arranged in a row below dorsal margin, and a few fine discal microsetae. Pygofer process, in lateral aspect, arising from ventral pygofer margin, curved very gradually posterodorsad, tapering to acute apex, the apical half with sclerotized transverse thickenings;

pygofer processes subparallel in ventral aspect. Anal hook bifid apically, the anterior point broader basally than the posterior.

Internal male genitalias Style elongate, gradually tapered to curved apical portion which is slightly thickened in dorsal aspect; apical portion directed posterolaterad; apical half with several ciliate setae near lateral margin; apical oblique portion with large basal tooth on lateral margin and few small denticles diagonally arranged over dorsal face to apex which is bluntly rounded. Connective papilioniform with apex turned dorsad, the aedeagal articulation subterminal. Aedeagus with elongate preatrium bearing pair of processes smoothly curved caudad and dorsad, their apices divergent in caudal aspect; shaft short, unadorned; aedeagal apodeme poorly developed.

This species is very closely related to *Empoasca perelegans* Oman, but in the latter, the styles are nearly straight to their apices, in dorsal aspect, and with the apices obliquely truncate.

Empoasca oculea (Osborn)

(Pl. VI, fig. 22)

Dikraneura oculea Osborn. Ann. Carnegie Mus. 18 (2):268. 1928.
Empoasca oculea; Young. Univ. of Kansas Sci. Bull. 35 (1):115. 1952.

Hind wings: Venation typical for *Empoasca.*

Forewings: The wing apices of the type had been destroyed.

Genital capsule: Male plate, in ventral aspect with longitudinal group of setae extending from disc near base to mesal margin at apex; in lateral aspect with few slender elongate setae arising near dorsal margin near base and extending dorsad, and linear interrupted series of small sensilla parallel to and near dorsal margin over apical half, with numerous microsetae arranged irregularly between the two longitudinal groups through most of lenght of plate. Pygofer with posterior lobe slightly produced and broadly convex, greatly exceeded by plate apices, with few small setae on posterodorsal portion of lobe and few elongate slender microsetae on disc anterior to these. Pygofer processes slender, elongate, crossing very near their bases, slightly divergent at apices, the preapical portion flattened and sligthly broadened, the apex sharply rounded, the dorsolateral edge with minute denticulations under high magnification. Anal hooks vestigial.

Internal male genitalia: Style slender, curved gradually posterolaterad apically, gradually tapered to obliquely truncate apex, with sparse elongate setae on concave margin on apical half and few mesal preapical denticulations on convex margin. Connective papilioniform, the aedeagal articulation subterminal.

Aedeagus with elongate preatrium, short shaft, gonopore subterminal, aedeagal processes wanting.

Empoasca breviceps (Osborn)

(Pl. VI, fig. 23)

Dikraneura breviceps Osborn. Ann. Carnegie Mus. 18 (2) :271. 1928.
Dikraneura alebroidea Osborn. *Op. cit.* 18 (2) :271. 1928.
Empoasca breviceps; Young. Univ. of Kansas Sci. Bull. 35 (1) : 116. 1952.

Hind wings: Typical of the genus.

Forewings: Inner and outer apical cells in form of trapezium, their bases opposite, the apex of neither attaining apical wing margin. Bases of second and third apical cells more distad than bases of inner and outer apical cells. Second apical cell with curved subparallel sides. Third apical cell almost triangular at base. Preapical (greatest) width of cell M exceeding that of cell R.

Genital capsule: Male plate with multiseriate group of macrosetae beginning on disc near base, becoming uniseriate and marginal along the mesal margin on apical fourth; with row of numerous evenly spaced marginal setae along lateral margin on apical half and group of widely spaced fine elongate setae along lateral margin on basal third, few small dispersed microsetae laterad of discal macrosetae on apical half of plate. Pygofer not greatly produced, greatly exceeded by apices of plates; posterior margin smoothly rounded to concave posteroventral margin; with apostrophe-shaped group of small setae beginning on posterodorsal margin and extending to near middle of disc at its ventral limit, and extended slightly more basad as linear group of fine microsetae. Pygofer hooks wanting. Anal hook weakly sigmoid, gradually tapering from base to apex, the apex directed anteroventrad.

Internal male genitalia: Style elongate, slender, curved smoothly laterad apically, the apex very slightly knobbed, with row of few elongate fine setae along concave margin on third quarter of length, and few minute denticles on dorsal face of curved apical portion. Connective papilioniform with apex turned dorsad and aedeagal articulation subterminal. Aedeagus entirely without processes, with elongate preatrium, short shaft.

The genitalia of the holotypes of *Dikraneura alebroidea* Osborn and *Dikraneura breviceps* Osborn have been compared and found to be identical.

Empoasca maculosa (Osborn)

(Pl. VI, fig. 24)

Dikraneura maculosa Osborn. Ann. Carnegie Mus. 18 (2):272. 1928.
Empoasca maculosa; Young. Univ. of Kansas Sci. Bull. 35 (1):118. 1952.

HIND WINGS: Typical of the genus.

FOREWINGS: Inner apical cell in form of trapezium, its greatest width nearly half wing width, its apex not attaining apical wing margin. Second apical cell with inner margin oblique, almost rectilinear, apical half of outer margin concave. Third apical cell subtriangular, long-stalked. Bases on first, second, and third apical cells progressively more distad. Outer apical cell small, pentagonal, its apex not attaining apical wing margin, its base opposite base of second apical cell. Wing apex narrowly roudend.

GENITAL CAPSULE: Male plate, in ventral aspect, with irregular double row of macrosetae beginning lateral of middle of disc near base, extending to mesal margin and becoming marginal and uniseriate on apical fourth, short row of marginal small setae along lateral margin at apex of basal third, and with numerous irregularly arranged microsetae situated between longitudinal macrosetae and lateral margin. Pygofer exceeded apically by plate apices, its midposterior margin smoothly, roundly extended posteriorly, the contours of the dorsal and ventral margins smoothly merged with that of the posterior; disc with few small setae arranged in an irregular linear series from disc to margin posterodorsally; with few similar small setae at apex of posterior margin. Pygofer hook slender, almost straight, acicular, directed posterodorsad, its apex exceeding the posterodorsal pygofer margin. Anal processes parallel-sided, directed ventrad, slightly widened at apex.

INTERNAL MALE GENITALIA: Style elongate, slender, gradually tapered in dorsal aspect, the extreme apex curved gradually posterolaterad, concave margin bearing few very minute preapical denticles and few small setae more basad. Connective papilioniform with apex turned dorsad and aedegal articulation subterminal. Aedeagus with preatrium and shaft subequal in length, with pair of slender acute parallel ventral atrial processes convergent at apices, diverging slightly from shaft basad of its midlength in lateral aspect.

The form of the head, with the median length of the crown greatly exceeding the distance between the eyes, is unusual for *Empoasca*.

Empoasca fasciata (Osborn)

(Pl. VII, fig. 25)

Dikraneura fasciata Osborn. Ann. Carnegie Mus. 18 (2):273. 1928.
Empoasca fasciata; Young. Univ. of Kansas Sci. Bull. 35 (1):117. 1952.

Hind wings: Typical for the genus.

Forewings: The extreme apices of the wings of the holotype were destroyed, but the bases of the apical cells remain. The venation is identical to that of *Empoasca fabae* which has been illustrated by the writer in the second publication listed above.

Genital capsule: Male plate, in ventral aspect, with multiseriate longitudinal group of macrosetae beginning on basal fourth, becoming uniseriate and marginal along mesal margin on apical fourth, a linear marginal group of irregularly arranged microsetae over apical half along lateral margin, numerous dispersed microsetae on disc mesad of these, few elongate marginal microsetae on lateral margin near base. Pygofer roundly extended posteriorly, the dorsal and ventral margins not delimited, merging gradually with rounded posterior margin; with few dispersed small setae on disc near posterior margin, and few very fine microsetae on disc dorsad of outer basal angle of male plate. Pygofer processes wanting. Anal hook elongate-digitiform, with slight concavity along posterior margin near midlength, gradually tapered on apical half to abruptly rounded apex.

Internal male genitalia: Style slender, elongate, gradually tapered distal half smoothly curved posterolaterad and with few fine setae along concave face; with few minute denticles near mesal margin on apical third. Connective subpapilioniform, its posterior lobes not distinct, apex turned dorsad, aedeagal articulation subterminal. Aedeagus with preatrium distinct, but short compared to most species of the genus; shaft curved gradually dorsad, with pair of ventral atrial processes extending to beyond its midlength, and pair of lateral atrial processes extending to its apex.

Empoasca ornata (Osborn)

(Pl. VII, fig. 26)

Joruma ornata Osborn. Ann. Carnegie Mus. 18 (2):283. 1928.
Empoasca ornata; Young. Univ. of Kansas Sci. Bull. 35 (1):118. 1952.

Hind wings: Typical for the genus.

Forewings: Inner apical cell pentagonal, open apically (holotype). Second apical cell triangular, stalked, its apex subtending most of apical wing margin. Third apical cell with base angular, more distad than bases of inner and outer apical cells, lateral margins gradually divergent. Outer apical cell in form of trape-

zium, much longer than broad, its apex not attaining wing apex, its base indistinct.

Genital capsule: Male plate, in ventral aspect, with longitudinal multiseriate group of macrosetae beginning near center of disc on basal fourth, becoming uniseriate along mesal margin on apical third; in lateral aspect with group of elongate slender microsetae arising laterad of macrosetae on apical half; with few elongate submarginal microsetae near dorsal margin on basal half, and irregular uniseriate group of submarginal microsetae parallel to dorsal margin over apical half. Pygofer with dorsal and ventral margins smoothly rounded to smoothly convex posterior margin, few dispersed small microsetae near center of disc, and few longer microsetae near posterodorsal margin. Pygofer hooks wanting. Anal hook broad basally, short, the posterior margin sinuosly converging to anterior margin, the apex bluntly rounded, directed ventrad and slightly cephalad.

Internal male genitalia: Style elongate, slender, almost straight, slightly narrowed on apical fifth in dorsal aspect, with few preapical denticules on dorsal surface basad of truncate apex, and few small setae more basad along lateral face. Connective triangular, the angles rounded. Aedeagus with preatrium short; shaft cylindrical arising from dorsal portion of atrium, extending dorsocaudad, the apex rounded; a pair of elongate slender atrial processes extending dorsocaudad, their preapical portions crossing shaft and apices divergent; dorsal apodeme well-developed.

Empoasca hyalina (Osborn)

(Pl. VII, fig. 27)

Joruma hyalina Osborn. Ann. Carnegie Mus. 18 (2):284. 1928.
Empoasca hyalina; Young. Univ. of Kansas Sci. Bull. 35 (1):117. 1952.

Wings: As in *Empoasca fabae.*

Genital capsule: Male plate, in ventral aspect, with multiseriate longitudinal group of macrosetae beginning on disc on basal fourth, becoming marginal and uniseriate along mesal margin on apical third, extending to apex; with group of slender elongate microsetae lateral of the on basal portion of apical third; in lateral aspect, with single (holotype) slender seta on dorsal margin at apex of basal fourth, once-interrupted submarginal row of short microsetae parallel to dorsal margin on apical half, and few microsetae laterad of these, on disc, distad of midlength of plate. Pygofer short, greatly exceeded apically by plates; posterior margin broadly rounded; with submarginal crescentiform group of microsetae near posterodorsal margin. Pygofer hooks arising ven-

trally near base of ventral pygofer margin, extending mesad and posterodorsad, their apices crossed, in form slender and acicular, slightly sinuate in ventral view, in lateral view with apices extending slightly beyond posterior pygofer margin. Anal hook broad, short, the posterior margin broadly rounded to anterior margin at apex, anterior margin with lightly sclerotized basal protuberance.

Internal male genital: Style slender, gradually curved at apex, the tip obliquely truncate, with number of irregular serrulae along convex preapical margin. Connective T-shaped with stem broad and apex turned slightly dorsad and aedeagal articulation subterminal. Aedeagus with preatrium wanting, atrium elongate-elliptical; shaft short, curved anterodorsad, gradually tapering, the gonopore apical on posterior face; with pair of ventral asymmetrical atrial processes, the right one broad at base, gradually tapered, extending away from shaft basally, then smoothly curved dorsad to cross shaft preapically in lateral aspect, the left one slender basally, its length and curvature slightly less than that of right one, ending in acute apex; dorsal apodeme heavily sclerotized.

This species belongs to a complex of closely related species which includes *E. solana* DeLong, *E. dilitara* DeLong and Davidson, and *E. caldwelli* Davidson and DeLong. It is very unusual among species of *Empoasca,* in its possession of an asymmetrical aedeagus. The absence of a preatrium is not common among species of this genus.

Empoasca rubromaculata Osborn

(Pl. VIII, fig. 28)

Empoasca rubromaculata Osborn. Ann. Carnegie Mus. 18 (2):285. 1928.

Wings: The wing apices of the holotype were so badly damaged that their apical venation could not be determined.

Genital capsule: Male plates, in ventral aspect, with irregular biseriate longitudinal group of microsetae beginning on basal fifth, becoming uniseriate and marginal on mesal margin on apical fifth, longitudinal group of slender elongate microsetae laterad of these on apical half; in lateral aspect with few small setae along dorsal margin on basal third and uniseriate row of short submarginal microsetae parallel to dorsal margin over apical half. Pygofer with posterior margin broadly rounded, the apex inrolled, with group of marginal small setae at apex and group of smaller setae on inrolled portion, appearing submarginal and discal in lateral aspect, few minute microsetae on pygofer disc. Pygofer processes arising ventrally and basally, in ventral aspect directed obliquely caudad towards opposite pygofer wall, crossing near midlength, the apices curved slightly mesad; form slender, acute, gradually

tapering; in lateral aspect, processes appearing directed slightly posterodorsad, not attaining posteriro pygofer margin. The anal tube (and its processes?) as well as one of the male plates, were missing from the mutilated holotype.

Internal male genitalia: Style elongate, slender, curved gently posterolaterad on apical fifth, the apex truncate, with few preapical serrations along convex margin and few small setae along concave margin. Connective as in *Empoasca hyalina* (Osborn). Aedeagus massive, elbowed basad of midlength, the preatrium nearly at right angles to the longer shaft; atrium dorsal, occurring distad of elbow; dorsal apodeme platelike in vertical transverse plane, each of its ventrolateral extremities giving rise to an elongate slender process diverging gradually from shaft; gonopore terminal; with a pair of preatrial processes arising from base of preatrium, sinuously curved towards apex of shaft, slender, tapering, with acute apices; preatrium with lateral sclerotized barlike thickening extending from base to elbow.

Empoasca fabae (Harris)

Empoasca fabae (Harris); Osborn. Ann. Carnegie Mus. 18 (2):286. 1928.

Three species were found in the series which Osborn placed in this species. One of the species was correctly identified.

Empoasca flavescens (Fabricius)

Empoasca flavescens (Fabricius); Osborn (misdetermined). Ann. Carnegie Mus. 18 (2):287. 1928.

The specimens which Osborn placed here were a mixed series involving several species, none of which was the species commonly accepted as *flavescens* (Fabricius) by current European writers.

Empoasca olivatula Osborn

(Pl. VIII, fig. 29)

Empoasca olivatula Osborn. Ann. Carnegie Mus. 18 (2):287. 1928.

Wings: As in *Empoasca fabae,* but outer apical cell of forewing open basally.

Genital capsule: Male plate, in ventral aspect, with multiseriate longitudinal group of macrosetae beginning on basal fifth, becoming uniseriate and marginal along mesal margin on apical fourth, with longitudinal group of elongate discal microsetae on apical half near to and sligthly laterad of these, longitudinal row of short microsetae along lateral margin on apical half, and with

few slender elongate dorsad-directed microsetae along lateral margin on basal fourth. Pygofer with posterior margin broadly and smoothly extended posteriorly, the posterodorsal margin slightly concave, with close-set group of submarginal preapical posterodorsal microsetae and sparse somewhat linear group of similar microsetae extending from these anteroventrad then anterodorsad across disc. Pygofer processes arising anteroventrally, extending dorsocaudad, somewhat convergent apically, slender, straight, in ventral aspect narrowed abruptly preapically and with sinuous apices. Anal hook in form of very lightly sclerotized semiovate plate.

Internal male genitalia: Style elongate, slender, smoothly curved posterolaterad apically, the apex truncate; with few small preapical denticles along convex margin. Connective T-shaped, the stem broad. Aedeagus with preatrium long, slender, in lateral aspect with ventral convexity just basad of atrium; atrium elongate-oval in form, giving off pair of asymmetrical ventral processes, the right more elongate than the left, the processes extending out from base of shaft then curved and appressed to shaft at their apices; shaft laterally compressed, broad basally in lateral aspect, gradually narrowed to slightly recurved pommellike apex; gonopore subterminal on caudal face.

Empoasca carneola (Osborn), new combination

(Pl. VIII, fig. 30)

Erythroneura carneola Osborn. Ann. Carnegie Mus. 18 (2):288. 1928.

Hind wings: As in *Empoasca fabae,* but vein Cu_2 confluent with submarginal vein at point much more distad than in that species, nearly opposite transverse portion of vein M_{3+4}.

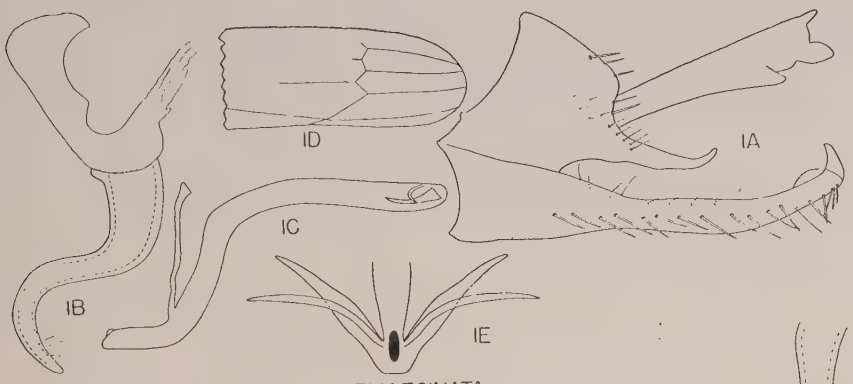
Forewings: The venation of the wing apex of the type could not be determined. The extreme apex is missing in the holotype. The venation at the bases of the apical cells is greatly obscured by what appear to be fungal hyphae. No appendix is present.

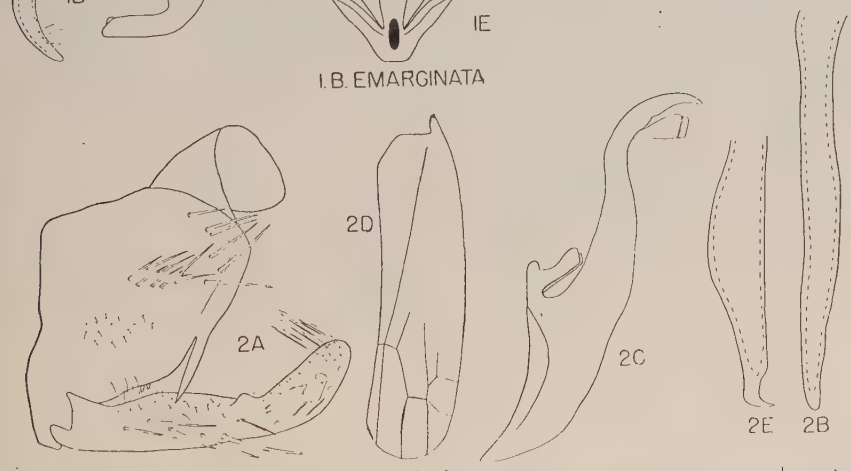
Genital capsule: The male plates were both broken in the holotype, and with the apical portions wanting. The portion present revealed an irregularly uniseriate group of discal longitudinal macrosetae, two widely spaced submarginal small setae near base of lateral margin, and submarginal group of small microsetae more distad along lateral margin. Pygofer without setae; posterior margin vertical, notched below midlength; posterodorsal margin bisinuate; ventral margin well-delimited. Pygofer hook arising from anterior portion of ventral margin, extending dorsocaudad and mesad, in lateral aspect extending beyond posterior pygofer margin, cylindrical and sinuate based of tapered acute dorsad-di-

rected apex; in ventral aspect constricted at midlength, the two processes crossed apically. Anal hook slender, extending ventrad and sligthly posterad, its apical half gradually tapered to slender rounded apex almost attaining ventral pygofer margin.

INTERNAL MALE GENITALIA: Style slender, elongate, gradually tapering, the apical portion turned abruptly laterad and narrowed to acute tip; with few widely spaced small setae along lateral face beginning at base of apical half, and cluster of similar smaller setae on dorsal face just basad of apical curved portion. Connective Y-shaped, the stem broad. Aedeagus with preatrium short; shaft gradually tapered on basal half, cylindrical on apical half and curved in a crescent, the apex directed dorsad; gonopore apical; dorsal apodeme elongate, extending along dorsal face of basal half of shaft, forming a narrow dorsal carina at base, dorsoventrally compressed and overhanging shaft laterally at apex.

This species, without doubt, is not properly placed in *Empoasca,* to which, however, it is closely related. In view of the damaged condition of the holotype, the only know specimen, to date, and the consequent impossibility of completly characterizing a new genus, it is placed here provisionally.





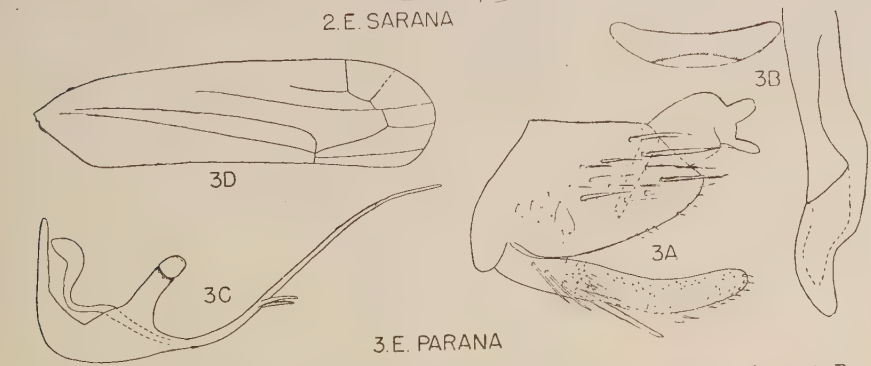


PLATE I — Fig. 1 - *Balera emarginata* (Osborn), paratype. A. Pygofer, lateral aspect. B. Style, lateral aspect. C. Aedeagus, lateral aspect. D. Apex of forewing. E. Apex of aedeagus, dorsal aspect. Fig. 2 - *Elabra sarana* (Osborn), type A. Pygofer, lateral aspect. B. Style, dorsal aspect, apical threefourths. C. Aedeagus, lateral aspect. D. Forewing. E. Apical half of style, lateral aspect. Fig. 3 - *Elabra parana* (Osborn), allotype. A. Pygofer, lateral aspect. B. Style and connective, dorsal aspect. C. Aedeagus and bulbus ejaculatorius, lateral aspect. D. Forewings.

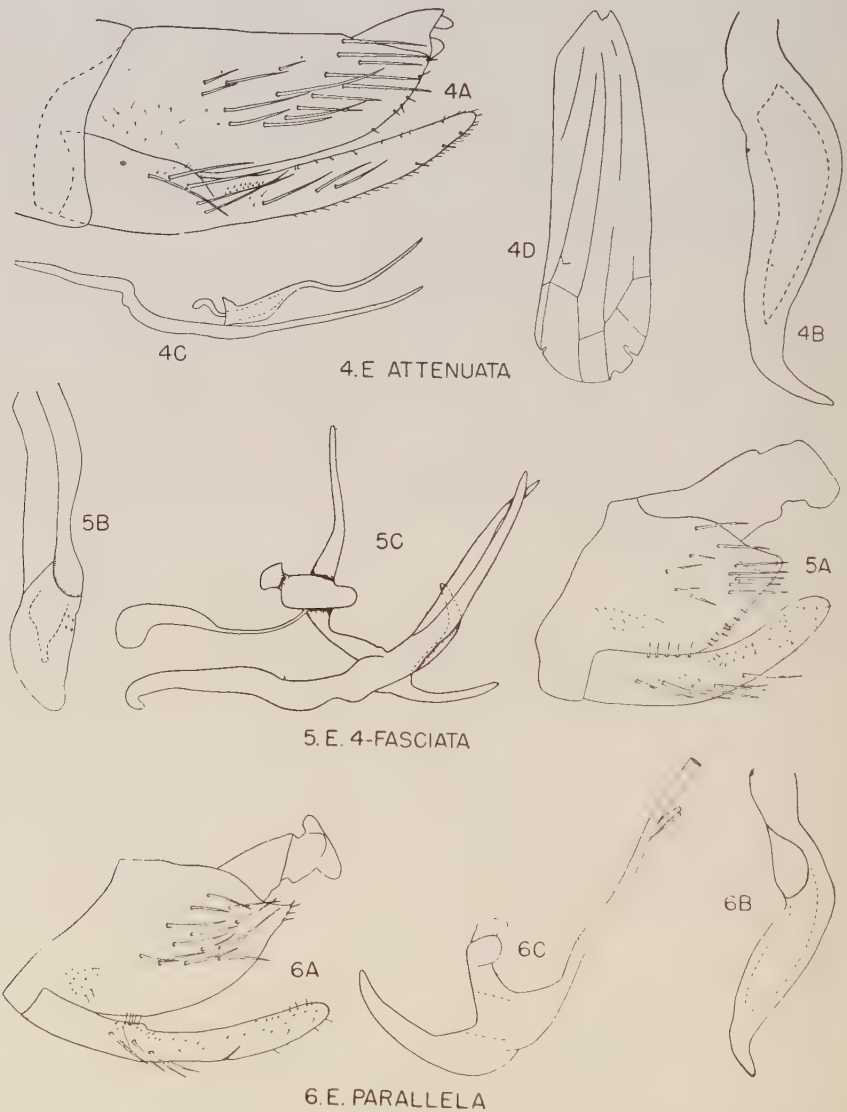


PLATE II — Fig. 4 - *Elabra attenuata* (Osborn), illustrated from type of *albidula* (Osborn). A. Pygofer, lateral aspect. B. Style, apical two-thirds, dorsal aspect. C. Aedeagus and bulbus ejaculatorius, lateral aspect. D. Forewing. Fig. 5 - *Elabra quadrifasciata* (Osborn), holotype. A. Pygofer, lateral aspect. B. Style. C. Aedeagus, with bulbus ejaculatorius. Fig. 6 - *Elabra parallela* (Osborn), holotype. A. Pygofer, lateral aspect. B. Style. C. Aedeagus, lateral aspect.

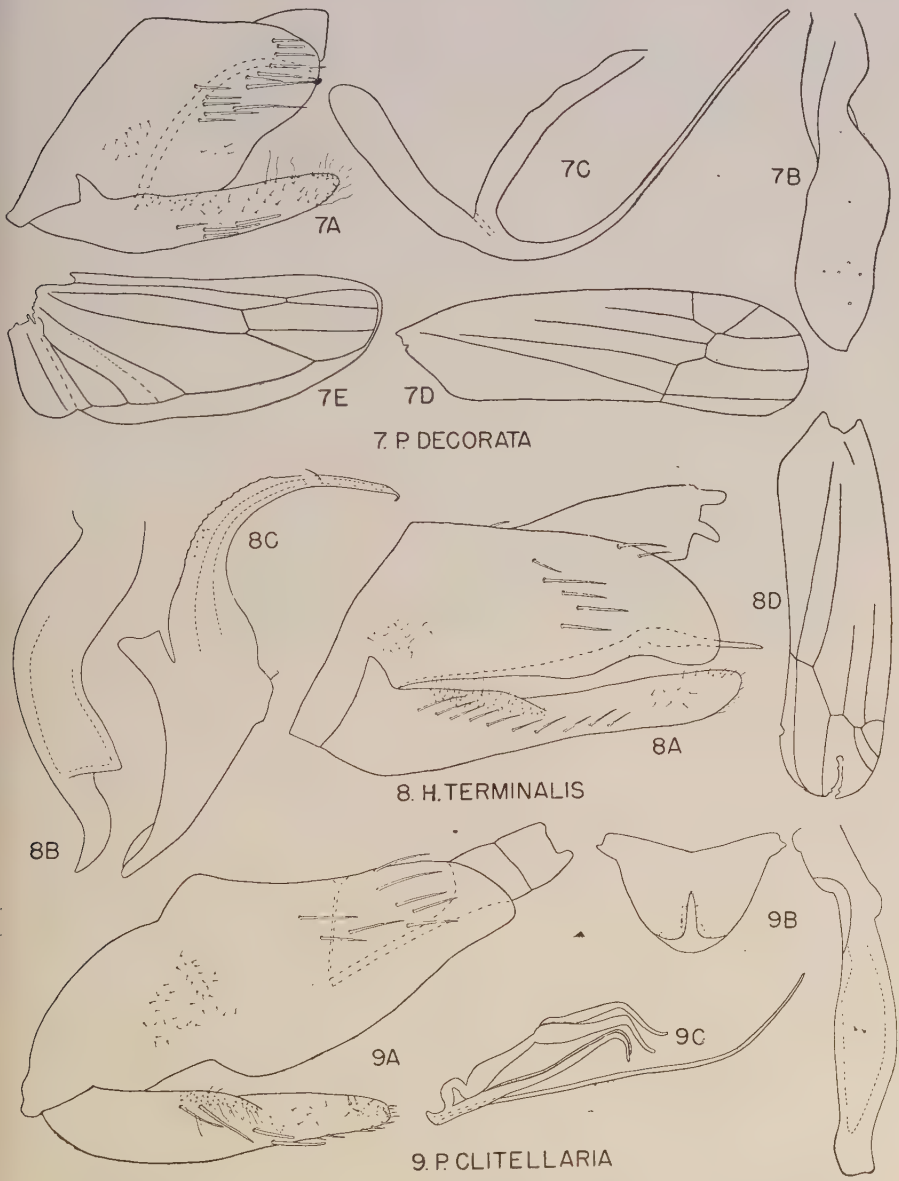


PLATE III — Fig. 7 - *Protalebra decorata* (Osborn), paratype. A. Pygofer, lateral aspect. B. Style, dorsal aspect. C. Aedeagus, lateral aspect. D. Forewing. E. Hind wing. Fig. 8 - *Habralebra terminalis* (Osborn), type. A. Pygofer, lateral aspect. B. Style, broad aspect. C. Aedeagus, lateral aspect. D. Forewing. Fig. 9 - *Protalebra clitellaria* (Osborn), type. A. Pygofer, lateral aspect. B. Style and connective, dorsal aspect. C. Aedeagus, lateral aspect.

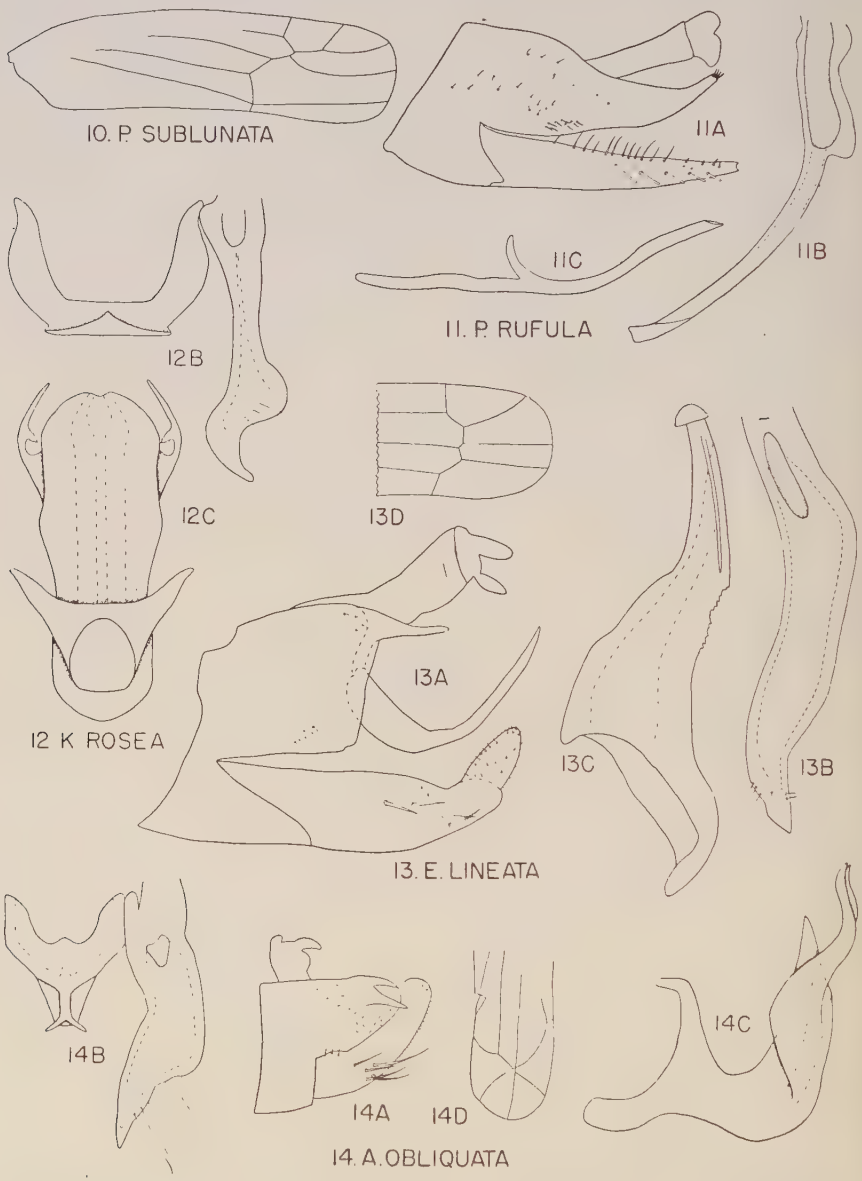


PLATE IV — Fig. 10 - *Protalebra sublunata* (Osborn), type. Forewing. Fig. 11 - *Parallaxis rufula* Osborn, lectotype. A. Pygofer, lateral aspect. B. Style, from a dorsal and slightly lateral aspect. C. Aedeagus, lateral aspect. Fig. 12 - *Kunzeana rosea* (Osborn), type. B. Style and connective, dorsal aspect. C. Aedeagus, dorsal aspect. Fig. 13 - *Eudoxoneura lineata* (Osborn), type. A. Pygofer, lateral aspect. B. Style. C. Aedeagus, lateral aspect. D. Apex of forewing. Fig. 14 - *Alconeura obliquata* (Osborn), holotype. A. Pygofer, lateral aspect. B. Style and connective, dorsal aspect. C. Aedeagus, lateral aspect. D. Forewing, apical half.

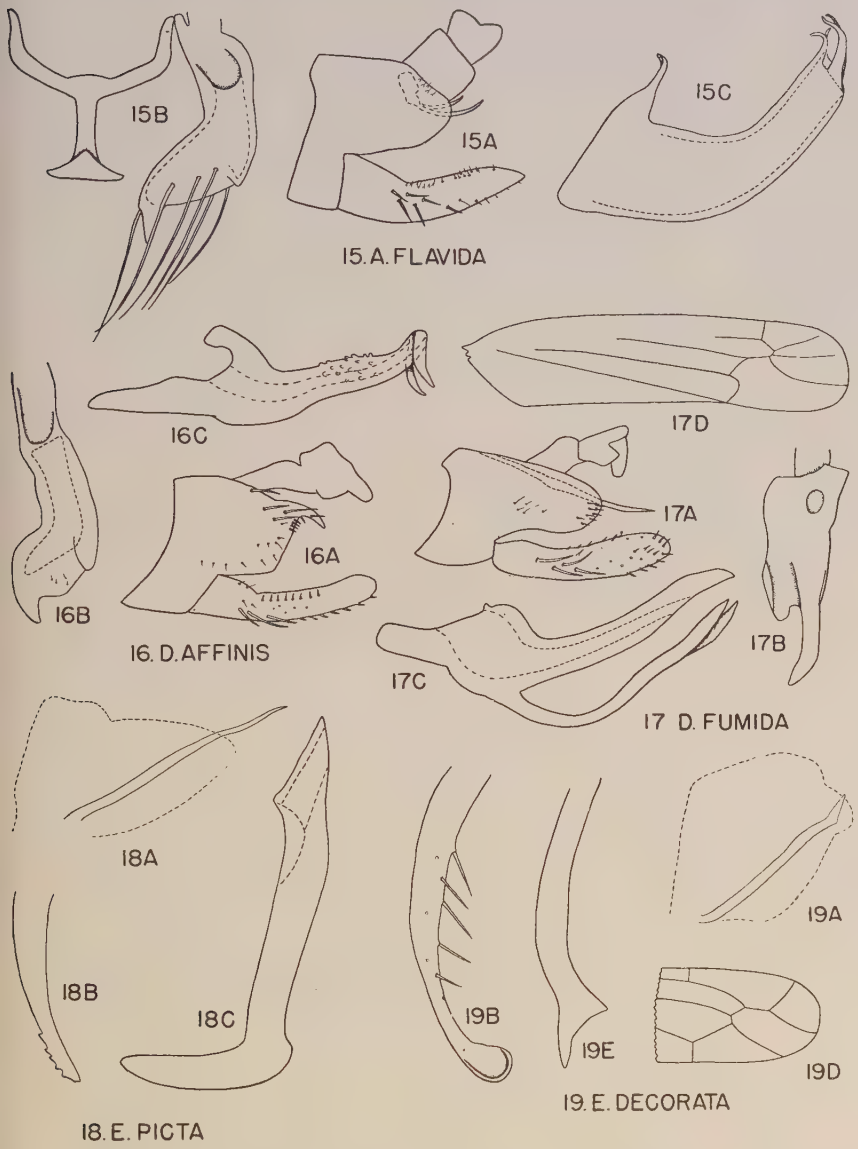


PLATE V — Fig. 15 - *Alconeura flavida* (Osborn), type. A. Pygofer, lateral aspect. B. Style and connective, dorsal aspect. C. Aedeagus, lateral aspect. Fig. 16 - *Dikrella affinis* (Osborn), allotype. A. Pygofer, lateral aspect. B. Style, dorsal aspect. C. Aedeagus, lateral aspect. Fig. 17 - *Dikrella fumida* (Osborn), A. Pygofer, type, lateral aspect. B. Right style, type, dorsal aspect. C. Aedeagus, type, lateral aspect. D. Forewing, specimen from U. S. National Museum. Fig. 18 - *Empoasca picta* Osborn, type. A. Pygofer, lateral aspect. B. Right style, apical half C. Aedeagus, lateral aspect. Fig. 19 - *Empoasca decorata* Osborn, type. A. Pygofer, lateral aspect. B. Right style, apical half. D. Forewing, apex, sketch. E. Pygofer process, broad aspect, apical half.

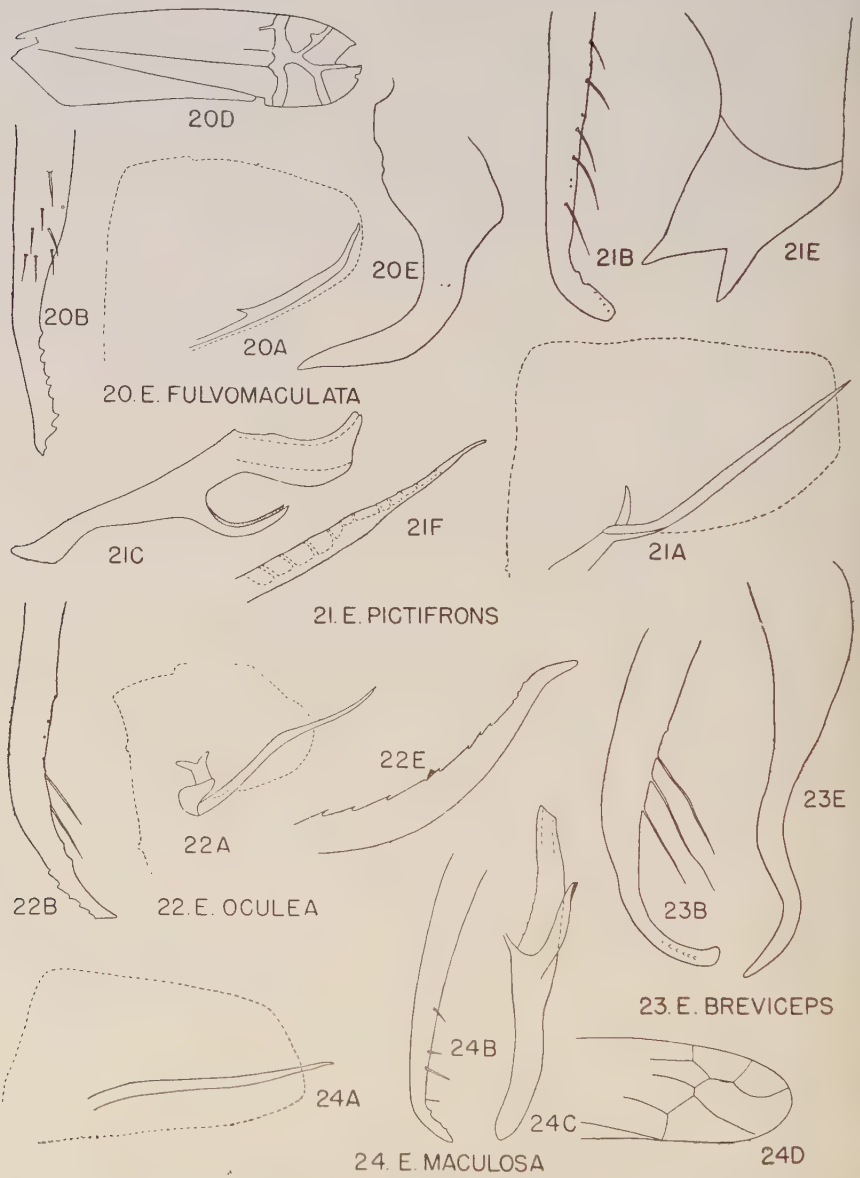


PLATE VI — Fig. 20 - *Empoasca fulvomaculata* (Osborn), type. A. Pygofer, lateral aspect. B. Style, apical three-fifths. D. Forewing. E. Left anal hook, lateral aspect. Fig. 21 - *Empoasca pictifrons* (Osborn), type. A. Pygofer, lateral aspect. B. Style, apical half. C. Aedeagus, lateral aspect. E. Left anal hook, lateral aspect. F. Pygofer process, lateral aspect, apical half, high magnification. Fig. 22 - *Empoasca oculea* (Osborn), type. A. Pygofer, lateral aspect. B. Style, apical half. E. Apical fourth of pygofer process, high magnification. Fig. 23 - *Empoasca breviceps* (Osborn), from the type of *E. alebroidea* (Osborn). B. Style, apical half. E. Left pygofer process, lateral aspect. Fig. 24 - *Empoasca maculosa* (Osborn), holotype. A. Pygofer, lateral aspect. B. Style. C. Aedeagus, lateral aspect. D. Apex of forewing.

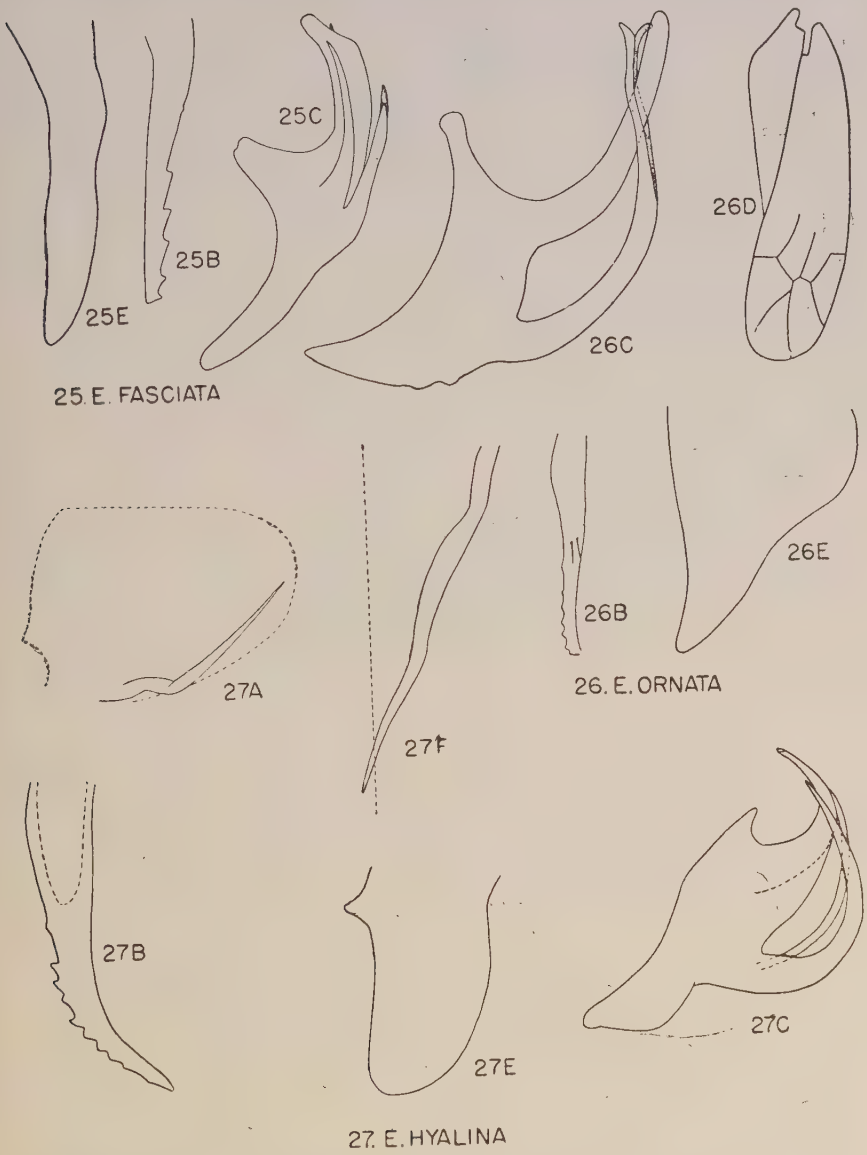
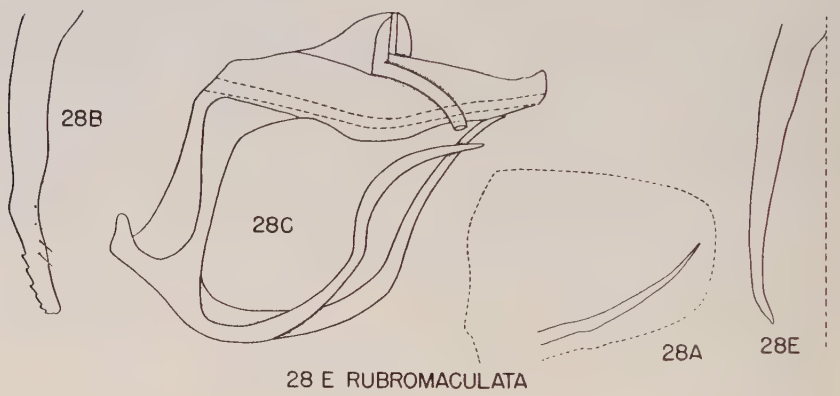
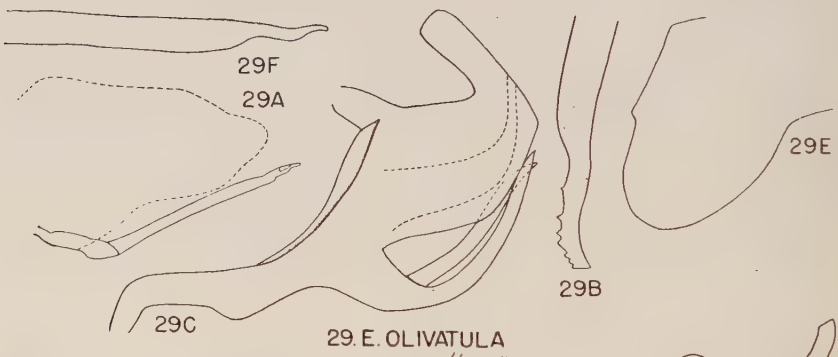


PLATE VII — Fig. 25 - *Empoasca fasciata* (Osborn), holotype. B. Style, apical third. C. Aedeagus, lateral aspect. E. Left anal hook, lateral aspect. Fig. 26 - *Empoasca ornata* Osborn, type. B. Style, apical half. C. Aedeagus, lateral aspect. D. Forewing. E. Left anal hook, lateral aspect. Fig. 27 - *Empoasca hyalina* (Osborn), holotype. A. Pygofer, lateral aspect. B. Style, apical half. C. Aedeagus, lateral aspect. E. Left anal hook, lateral aspect. F. Pygofer process, ventral aspect (broken line represents midventral line).





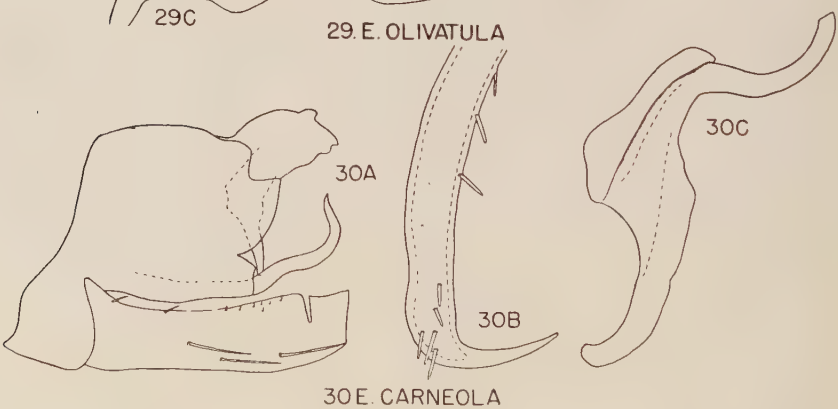


PLATE VIII — Fig. 28 - *Empoasca rubromaculata* Osborn, type. A. Pygofer, lateral aspect. B. Style, apical two-thirds. C. Aedeagus, lateral aspect. E. Pygofer process, ventral aspect, apical half (broken line represents midventral line). Fig. 29 - *Empoasca olivatula* Osborn, type. A. Pygofer, lateral aspect. B. Style, apical half. C. Aedeagus, lateral aspect. E. Left anal hook, lateral aspect. F. Pygofer process, apical half, ventral aspect, high magnification. Fig. 30 - *Empoasca carneola* (Osborn), type. A. Pygofer, lateral aspect. B. Style, apical half. C. Aedeagus, lateral aspect.

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PENETRATION OF INSECTICIDAL SMOKES INTO MODEL NESTS OF LEAF-CUTTING ANTS

BY

W. A. Taylor and G. M. S. Duff

Tests have been carried out on the penetration of pesticidal smokes into simplified models of the nests of leaf-cutting ants (*Atta cephalotes* L. and *Atta sexdens* L.) constructed of glass and of soil. Relationships have been established between the degree of penetration obtained and the speed and volume of the smoke used and the complexity of the nest structure. The penetration to be expected from the use of the smoke technique is shown to be restricted to the main nest passages and some conclusions are drawn as to the most promising type of smoke generator.

The damage caused by leaf-cutting ants to agriculture in tropical and sub-tropical America constitutes a serious threat to the economies of the areas concerned. The advent of a simple and effective method of treatment would be of considerable importance. To this end, some experiments have been carried out using insecticidal smokes in model nests in order to evolve the most effective type of generator and to estimate the prospects for the method.

Smokes from burning mixtures, e.g. sulphur/arsenic, have been widely used for the eradication of nests and some success agains small nests has been attributed to the "Agrocide" N.º 5 smoke generator containing benzene hexachloride otherwise known as BHC and previously supplied by Messrs. Plant Protection Limited, England. Results using the latter generators against large nests have been variable. Trials have been carried out in Trinidad by Messrs. Plant Protection Limited using BHC, nitrogen dioxide and parathion smoke generators. Results showed that inadequate control of ants was obtained in the medium to large size nests which were treated. Coaton (1) in South Africa has described results obtained with smokes against subterranean termite nests which are smaller than the usual leaf-cutting ants' nest. He found that good control was obtained with BHC and DDT smokes provided complete penetration was effected. The termites tended to seal off untreated portions of the nests from the treated parts.

EXPERIMENTAL

Experiments in Glass Model Nest. — A glass model of part of a typical nest was constructed, as is shown in Fig. 1, based on the descriptions of various investigators (²) (³). The passages, fungus gardens and general proportions of a typical nest were roughly reproduced in glass and it was thought that such a model would demonstrate some of the problems to be found in a real nest. The passages were constructed of 4 or 6 cm. diameter glass tubing to approximate to the size of the actual tunnels in a nest. The fungus gardens were represented

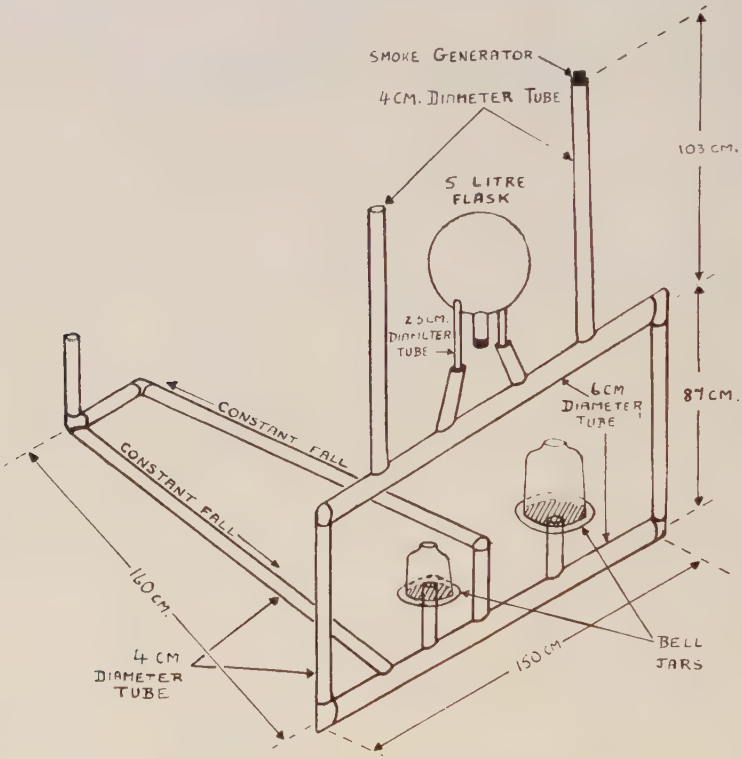


Fig. 1 - Model in glass of section of ants' nest.

by a 5 litre flask and two glass jars. The flask had no outlet to the atmosphere but the two jars had a slight leakage and may have represented more closely the conditions actually existing in a nest. The size of the model was restricted by laboratory space but on the assumption that the average ants' nest (hereafter referred to as the "standard nest") covers an area of 40 square metres, contains 50 litres of air space and about 40 fungus gardens, the model was approximately 1/14th of the average nest.

An approximate theoretical treatment outlined in the appendix suggests that

the penetration is proportional to the volume of smoke used, and to the square of the velocity with which it enters the nest. No terms involving interactions between volume and velocity are significant at this degree of approximation. As the experimental treatment involved the use of a model any conclusions can be only tentative, and hence it was limited to an assessment of the relative magnitudes of the volume and velocity coefficients.

A few preliminary experiments were carried out in which various types of smoke generator embodying crude BHC (14% gamma isomer), parathion and chlordane were employed. The generators were reacted in turn at the top of the right hand vertical column as shown in Fig. 1 and the smoke deposit was collected on glass slides placed throughout the nest. The limit of penetration of the smoke, defined as the percentage of the total nest penetrated by the smoke, was measured for each generator. If even small quantities of smoke were seen to be present in a part of the nest, that part was noted as having been penetrated. By evaluating the deposits on the slides against a standard insect (*Triboleum castaneum* H.) using a contact technique it was demonstrated that, in general, the distribution of the pesticide could be assessed from the visible penetration of the smoke. Further, it was noticed that the penetration was influenced by gravity. Smoke descended the first vertical column easily but a very large quantity was required before any would rise up one of the other columns.

A relationship between the volume of smoke introduced into the model nest and the penetration of the nest was established by reacting various weights of a BHC smoke mixture based on a heater composed of potassium persulphate/ammonium dichromate ([4]) at the top of the model as before and noting the penetration. The volume of smoke emitted by 1 g of composition was 200 cc. As described later, the velocity of the smoke is assessed by the pressure head developed across a standard aperture. In these experiments the pressure head was equivalent to 1 cm. of mercury.

The results were as follows:

TABLE 1

PENETRATION/VOLUME RLLATINOSHIP FOR *BHC* SMOKE

Volume of smoke (deci-litres)	*Penetration (%)*
2	29
4	36
6	45
8	47
10	52
12	53
14	58
16	58
18	58
20	61

It is seen that the penetration tends to an upper limit at about 60%, which is the volume of the nest outside the fungus gardens. The fact that the re-

lationship between P and V is more nearly logarithmic than linear as suggested in the appendix, is probably attributable to the effects of gravity in assisting the initial penetration down the vertical column. The above results are plotted in Figure 2. The regression equation of penetration on logarithmic volum is

$$P = 18 + 33 \log_{10} V$$

The correlation is significant at the 0.1% level. A few similar experiments were carried out using safety fuse as a source of smoke. The safety fuse consisted of a blackpowder core covered with various waterproofing and binding layers. The pressure head was approximately zero. The results are given in Table 2:

TABLE 2

PENETRATION/VOLUME RELATIONSHIP FOR SMOKE FROM SAFETY FUSE

Volume of smoke (deci-litres)	*Penetration (%)*
2	28
4	32
6	37
8	43
10	52
12	55
14	55
16	55

The above results are also reproduced in Figure 2. The average difference in penetration between BHC smoke and safety fuse is significant at the 5% level. It may be concluded therefore that the penetration of the nest is slightly greater when a fast reacting smoke mixture is used rather than a slow burning safety fuse. This may be attributed to the greater speed of the former type of smoke and perhaps also to the fact that the smoke particles from the smoke mixture are much finer than those produced by safety fuse. Fine particles in a smoke would not be precipitated as quickly as larger particles.

In order to establish a relationship between penetration and the velocity of a gas stream introduced into the nest, a smoke generator was designed such that a variable proportion of the smoke evolved could be directed into the nest through an aperture of 3.2 cm. diameter, and the remainder exhausted through an adjustable valve to the atmosphere. By means of the valve the speed of the gas stream could be varied and by controlling the time during which the smoke flowed into the nest, the volume could be maintained constant. It can be shown, with certain reservations, that the flow speed of a gas through an aperture is proportional to the square root of the pressure head, and, as this relationship probably holds with sufficient accuracy for the present series of experiments, the pressure was used as a measure of the gas speed. This was measured at a third aperture. A portion of a "Jetex 100" pellet, a fast reacting gas producing pellet used for propelling toys and sold by Messrs. Wilmot & Mansour Limited, England, was used as a source of smoke. The volume of gas produced by each shot was approximately 180 c.c.

TABLE 3

PENETRATION/PRESSURE HEAD RELATIONSHIP FOR SMOKE

Pressure head (cm. mercury)	*Penetration (%)*
2.5	26
3.0	25
4.0	26
5.9	27
8.0	25
10.0	28
14.0	31
16.0	30

These results show a considerable scatter, but within the narrow range of pressure covered in the experiment are adequately expressed by a linear relationship with respect to pressure. This is equivalent to a quadratic relationship with respect to velocity, as predicted in the appendix.

The regression of penetration on pressure was found to be significant at the 5% level, the equation being:

$$P = 24 + 0.4P'$$

where P = penetration in % and P' = pressure in cm. of mercury.

To investigate the effect of increasing the obstruction to the passage of smoke, tests were performed with a number of small diameter glass tubes inside the main tubes of the nest. By this means it was possible to vary the amount of surface in contact with the smoke and also to vary the complexity of the path. These two factors tend to reduce the dispersion. The parameter chosen to measure the degree of obstruction of the passages was the surface area/unit volume, which was calculated from the measurements of the tubes.

Few tests were performed, as it was realised that no reliable estimate of the appropriate parameter for an ants' nest is likely to be available. Safety fuse was used as a source of smoke. The results obtained are summarised in table 4:

TABLE 4

PENETRATION/SURFACE AREA RESLATIONSHIP FOR SMOKE

Area/Volume for nest (cm^{-1})	*Volume of smoke (deci-litres)*	*Penetration (%)*
0.74	4	25
0.74	8	38
1.10	4	24
1.10	4	22
1.10	8	34
1.45	4	18
1.45	4	16
1.45	8	28
1.45	8	28

The regression line of penetration on A/V and V is

$$P = 26 + 2.8\ V - 13\ A/V$$

The partial regression coefficients are both significant at the 1% level. Thus it is seen that the penetration decreases quite rapidly as the complexity of the path is increased.

The above experiments suggested that it might be possible to use the volume of smoke and pressure head obtained with any candidate smoke generator to evaluate its potential penetrating power. Accordingly, the results contained in Tables 1 and 3 have been used to obtain the regression line of penetration on volume and pressure. The resulting equation is.

$$P = 16 + 0.3\ P'' + 34 \log_{10} V$$

where P = penetration in %
P' = pressure in cm. of mercury
V = volume in deci-litres

The coefficients are significant at the 1% and 0.1% levels respectively.

Expressing this equation in terms of the standard nest of 40 sq.m. surface area, we get

$$P = 1.2 + .02\ P' + 2.4 \log_{10} V \quad \ldots\ldots\ldots\ldots\ldots 10$$

From this equation it is theoretically possible to estimate the number of generators of a particular type required to achieve any specified penetration. It is emphasised, however, that the above equation was deduced from results obtained with one particular type of model nest. Complicating factors in the application of this equation to results for real ants' nests would be expected to include

(a) earth lining in the real nests as against glass lining in the dummy nest making for greater friction to the movement of smoke.

(b) variation in the structure of nests from place to place such as differences in the diameter and complexity of the passages.

(c) ventilation systems in the nests which may assist or hinder penetration depending on the position of the generator.

(d) high humidity inside the nest which would favour the quick deposition of smoke particles.

Experiments in an Earth Tunnel. — In order to investigate the validity of the results obtained with the glass model nest as applied to a nest in earth, a tunnel was dug in soil in the open air as shown in Fig. 3. The tunnel was straight and was 7 metres long to simulate the length of a main passage in a "standard nest". The main passages in the nests of *Atta cephalotes* L. and *Atta sexdens* L. are roughly straight (2). The tunnel was 5 x5 cm. cross section and was roofed with short lengths of wire gauze with loose soil on top; this arrangement ensured that a rough surface was presented to passing smoke and at the same time the gauze could easily be lifted to inspect the tunnel. Stahel and Geijskies (2) note that in a nest of *Atta cephalotes* L. the fungus gardens were connected to the system of main passages by short side branches which make

openings 0.5 — 1.5 cm. wide in the chambers. There may be a system of ventilation of the fungus gardens but opinions differ on this point. In order to simulate fungus gardens, two flasks were set up as shown in Fig. 3, one a 2 litre capacity flask (C, Fig. 3) having an opening 0.5 cm. diameter 3 cm. long, to the tunnel and the other, 5 litres capacity (D, Fig. 3) joined to the tunnel by an opening 1.5 cm. diameter and 3 cm. long, corresponding to the maximum and minimum width of entries into the chambers as was observed by Stahel and Geijskies. Small leaks of 0.5 cm. diameter were provided from the flasks to the exterior to allow a slight through ventilation.

A series of tests was carried out in the tunnel to try to confirm the volume of smoke/penetration relationship obtained with the glass model and shown in Table 1. Aggregates of fast reacting BHC smoke producing pellets weighing 3.8 g. each and based on a gas producing heater mixture of ammonium nitrate/potassium chromate ([5]) were employed. The wind was slight and from the north and flasks C and D were not connected up.

TABLE 5

WEIGHT OF COMPOSITION/PENETRATION RELATIONSHIP

N.º of pellets	*Pellets set off at*	*Penetration of smoke (metres)*
3	B, with wind	> 7
2	B, " "	> 7
1	B, " "	4
3	A, against wind	> 7
1	A, " "	3
2	B, with wind	> 7
1	B, " "	> 7
2	A, against wind	3
2	A, " "	4
1	A, " "	1.5

Against the wind, i.e. from A, the penetration of the smoke was roughly proportional to volume of smoke, assuming that the volume of smoke generated was proportional to the weight of composition. It was seen that a 10 g. pellet of the above smoke composition would be expected to fill completely a passage 7 metres long even without assistance from gravity.

A few tests were carried out using 10 g. pellets of the above BHC smoke mixtures and having the flasks C and D (Fig. 3) in position. The wind was fresh and from the south.

TABLE 6

PENETRATION OF SMOKE INTO MODEL FUNGUS GARDENS

Pellets set off at	*Penetration along passage*	*Penetration into flask C*	*Penetration into flask D*
A, with wind	7 metres	yes	yes
A, " "	7 "	yes	yes
B, against wind	3 "	no	no
B, " "	4 "	no	yes

TABLE 7

PENETRATION TESTS USING DIFFERENT TYPES AND FORMS OF SMOKE COMPOSITION

Type of heater in composition	*Pellet or or loose powder*	*Weight of composition (g.)*	*Time taken for generator to react (sec.)*	*Generator set off at*	*Penetration along tunnel (metres)*
amnonium nitrate/ potassium chromate (5)	pellet	10	36	B, with wind	> 7
"	pellet	10	36	A, against wind	3.5 — 4
"	pellet	10	36	A, " "	3.5 — 4
"	loose powder	10	30	A, " "	> 7
"	" "	10	30	A, " "	> 7
"	" "	7.5		A, " "	> 7
"	" "	7.5		A, " "	> 7
"	" "	5		A, " "	7
"	" "	5		A, " "	7
amnonium dichromate (4) potassium persulphate/	" "	10	45	A, " "	3.5
"	" "	10	45	A, " "	4
amnonium dichromate (5) amnonium nitrate/	" "	10	65	A, " "	4
"	" "	10	65	A, " "	3

The above tests showed that some penetration into the fungus gardens could be expected, although the fresh wind which made for turbulence of the smoke may have been partly responsible.

Some further experiments were carried out under calmer wind conditions, when a slight wind was blowing from the north west. BHC smoke mixtures in loose powder and pellet form and based on different heater mixtures were ignited in the tunnel and the penetration of the flasks and the passage was noted

The above tests showed

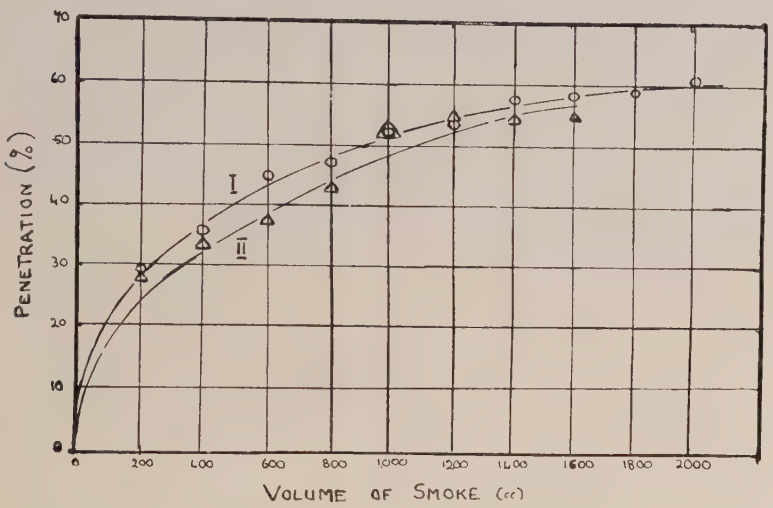


Fig. 2 - Relationship between volume of smoke and penetration. I, BHC smoke mixture; II, safety fuse.

(a) the higher penetration achieved by loose powders over pellets caused by the greater speed and higher pressure developed, confirming the results obtained in the glass model.

(b) the higher penetration attained by the fast reacting mixture based on amnonium nitrate-potassium chromate heater over the other mixtures which reacted less rapidly. This confirmed the results obtained in the glass model.

(c) no smoke penetrated the flasks probably because of the tendency of the smoke to creep along the base of the tunnel in the absence of wind. Similar results were obtained in the glass model.

The different types of smoke mixture produce substantially the same size of smoke particle and this factor was not thought important in these experiments.

A further series of tests was carried out to try to confirm the above results. The wind was from the north and very light. Flasks C and D (Fig. 3) were

not connected to the tunnel. Quantities weighing between 3.8 and 10 g. of the mixtures used in Table 7 were set off at A against the wind. The mixtures were in the form of pellets or loose powder. The penetration in all cases was 7 metres or nearly so. The reaction speeds of the mixtures varied from 36 sec./10 g. for a pellet based on amnonium nitrate/potassium chromate to 150 sec./10 g. in the case of a pellet based on amnonium nitrate/amnonium dichromate. At the conclusion of this series of tests, flasks C and D (Fig. 3) were

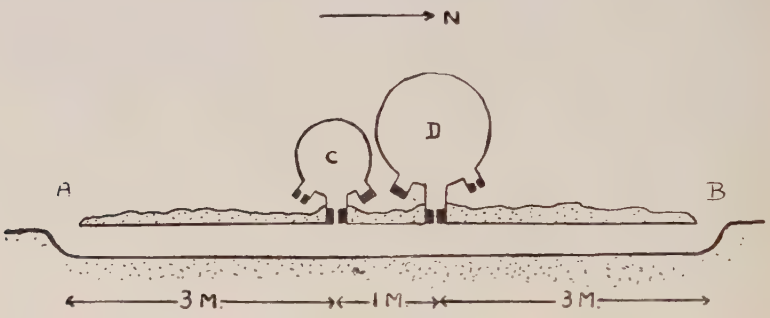


Fig. 3 - Model in soil of passage in ants' nest.

connected to the tunnel and 10 g. of the fast composition based on amnonium nitrate/potassium chromate was reacted at A. No penetration of smoke into the flasks was observed although the tunnel was completely filled with smoke.

The above tests, although of no value as sorting tests, showed the great distances over which smoke could penetrate under favourable wind conditions.

DISCUSSION OF THE RESULTS

From Tables 1 and 2 it is seen that the larger the volume of smoke, the greater will be the penetration into an ants' nest. For a "standard nest" of 40 square metres surface area it is seen from Table 5 that the smoke from a fast reacting BHC smoke mixture pellet of 10 g. weight should completely traverse the nest assuming the passages to be roughly horizontal. Even if one of these generators was required to penetrate into two passages simultaneously, from Tables 1 and 5 it is seen that a penetration of 3 — 4 metres should be obtained and the centre of the nest area reached.

From Table 3 it is obvious that increase in pressure of the smoke jet will favour penetration but, as can be seen from equation (1), increase in pressure will favour penetration to a lesser extent than increase in volume. It may be necessary to rely on as great a volume of smoke as possible as it would be difficult to produce a biologically efficient smoke mixture with a very high reaction rate.

Work on both the earth and glass models has shown that unless there is turbulence in the smoke, no penetration into the fungus gardens is likely. In

still air conditions in both models the smoke was seen to creep along the bottom of the passages. If a pesticide with a high vapour pressure were employed there would probably be some gas diffusion into the fungus gardens. If such a pesticide was not available it would be necessary to rely on the smoke penetrating the main passages only, and in such circumstances it would be necessary to employ a pesticide which is non-repellent to ants or the ants would be likely to seal off the contaminated portion of the nest. As previously noted, this behaviour has been observed in termite nests (1).

It was noticed in both models that the BHC was rapidly filtred out of the smoke on to the tunnel walls and for this reason as pure a grade of pesticide as possible would be preferable in order that the lightest deposit would be effective.

In conclusion, it is thought that the smoke technique coupled with a suitable pesticide would be a convenient and effective method of controlling nests of leaf-cutting ants.

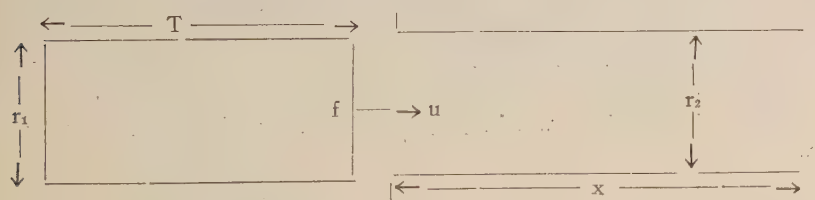
The authors are indebted to Mr. J. H. Hepburn for assistance with the statistical analysis of the results.

Research Department,
Imperial Chemical Industries Limited,
Nobel Division,
Stevenston.

(1) W. G. H. Coaton, Farming in South Africa, page 1, September, 1947.
(2) Stahel & Geijskies, Revista de Entomologia, 10, 1 (1939).
(3) M. Jacoby, Z. angew. Ent., 34, 145 (1952.
(4) Patents include:
Gt. Britain 708954, Chile 13710, Colombia 5930, Argentine 95134, Brazil 49405 and other patents pending.
(5) Patents include:
Gt. Britain 592788, British Guiana 327, Trinidad 16/48, Argentina 59914, Brazil 37458, Chile 13049, Colombia 4780, Ecuador 35, Panama 185, Mexico 55620, Uruguay pending.

APPENDIX

DISTANCE TRAVELLED BY A COLUMN OF SMOKE IN A TUBE



Consider an incompressible cylinder of fluid of volume V, mass m, density ρ entering a tube with a constant velocity u to be maintained until the cylinder

has completely entered the tube, as if it were being pushed by a piston. Let the cylinder be of length T, radius r_1 and the tube be of radius r_2, such that $r_2 > r_1$ and $T \geqslant r_1$.

Define the penetration x as the distance travelled by the front f. When u is infinitely small, the cylinder will enter its full length, then u will become zero almost immediately, and no further penetration will occur. The penetration will then be equal to the length of the cylinder.

$$x_0 = T = \frac{V}{\pi r^2_1}$$

It appears probable that r_1 will be a constant for any one smoke in any one specific nest, thus the penetration will be proportional to the volume. Le u be increased. The penetration will now be composed of two factors, x_0 due to the volume alone, and x_u due to the monnentum of the cylinder. Let the cylinder be subject to a retarding force F which causes a deceleration 'a' such that u falls to zero in a distance x_u

$$\text{Then } {}^1_2u^2 = ax_u$$

$$\text{or } a = \frac{u^2}{2x_u}$$

$$\text{Also } F = ma = \frac{mu^2}{2x_u}$$

$$\text{Therefore } x_u = \frac{mu^2}{2F}$$

The retarding force will be separable into two factors.

(1) The force resisting the advance of the front through the air, and

(2) The friction along the surface of the advancing cylinder. Since $T \geqslant r_1$, and in the experimental case $T = 100r_1$, it is probably safe to assume that the latter effect will predominate. This is also borne out by the observation that the smoke tends to travel as an elongated cylinder, rather than bunch up as it would if the end effect were important.

The frictional force will be proportional to the surface area, and we may write,

$$F = 2\pi r_1 T k \quad \text{..... where } k = \text{a constant}$$

Also $m = \rho V = \rho r^2 \pi T$

Therefore $x_u = \dfrac{\rho\pi r_1^2 Tu^2}{4\pi r_1 T k}$

$$= \frac{\rho r_1 u^2}{4k}$$

Therefore the total penetration is given by

$$x = x_0 + x_u$$

$$= \left(\frac{T}{\pi r_1^2}\right) V + \left(\frac{\rho r_1}{4k}\right) u^2$$

Thus it is suggested that the penetration will be proportional to the volume of smoke, and to the square of the velocity with which it enters the nest. In the experimental case, it was the pressure head P across the aperture of the generator which was measured, and since

$$u \propto \sqrt{P}$$

i.e. $u^2 = k'P$

$$\therefore \quad x = \left(\frac{T}{\pi r_1^2}\right) V + \left(\frac{r_1}{4k''}\right) P$$

i.e. the penetration is proportional to both volume and pressure head.

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DADOS SÔBRE *DASYHELEA* KIEFFER, 1911 DO BRASIL (*Diptera, Ceratopogonidae*) (*)

POR

O. P. Forattini e E. X. Rabello

Durante a realização de pesquisas nos arredores das cidades de São Paulo e São Vicente, conseguimos obter algumas formas pupais, as quais, levadas ao laboratório, forneceram exemplares adultos pertencentes ao gênero *Dasyhelea* Kieffer, 1911. Além disso, tivemos ocasião de obter material de alados, em parte coletado por nós e em parte, gentilmente cedido por J. Lane. Do seu estudo, resultou a presente publicação, onde descrevemos duas espécies novas, um macho desconhecido até agora, bem como as formas pupais de duas dessas espécies.

Dasyhelea pusilla (Lutz, 1913)

1913 — Lutz, A., Mem. Inst. Oswaldo Cruz 5:65 (*Centrorhynchus pusillus*).
1945 — Lane, J., Rev. de Entomologia 16:365-6.

Descrita inicialmente por Lutz (1913), esta espécie foi colocada no gênero *Dasyhelea* Kieffer, por Lane (1945). A partir de formas pupais, conseguimos obter machos e fêmeas. Dispondo pois, dêsse material, resolvemos aproveitar a ocasião para realizar uma redescrição da espécie, bem como para descrever o Alótipo e a forma pupal.

Fêmea. — Comprimento, ao redor de 1,6 mms. Asa, com cêrca de 1,0 mm. por 0,5 mm.

Cabeça. — Escura. Olhos negros e pilosos. Antenas escuras. Tóro grande e bem esclerotizado. Segmentos flagelares (Fig. 1) de comprimento aproximadamente igual, com exceção

(*) Trabalho do Departamento de Parasitologia da Faculdade de Higiene e Saúde Pública da Universidade de São Paulo, Brasil (Diretor: Prof. Paulo C. A. Antunes).

do último, que é ligeiramente mais comprido e largo do que os outros. Nota-se também, a presença de fina esculturação. Palpos (Fig. 2) com segmentos delgados, dos quais o III é o mais longo.

Tórax. — Côr geral escura. Mesonoto negro, com pruinosidade cinzenta distribuida em algumas áreas longitudinais, situadas mediana e lateralmente. Além disso, nota-se a mesma pruinosidade na depressão pre-escutelar. Ângulos humerais claros. Escutelo amarelado, em nítido contraste, quanto à coloração, com o restante do mesonoto. Pleura escura, com alguma área amarelada, principalmente na região de inserção da asa e no lôbo pronotal.

Pernas. — Marron escuras, de maneira uniforme. Extremidade distal da tíbia posterior com 8 cerdas robustas. T.R. ao redor de 2,4.

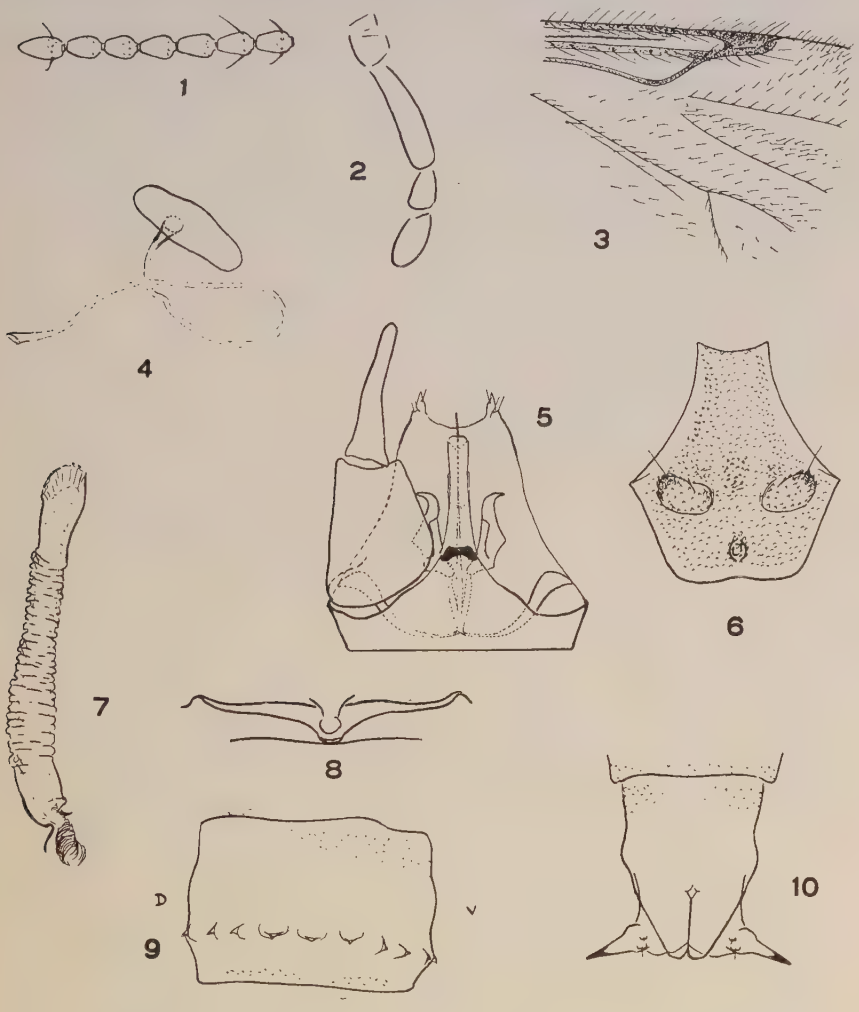
Asa. — Hialina, com área pigmentada ao nível do setor radial. Macrotríquias abundantes em tôda a superfície. Microtríquias muito pequenas. Primeira célula radial obliterada. Segunda célula radial com abertura vestigial (Fig. 3) e de contorno aproximadamente quadrangular. Forquilha da veia Cu ao nível da base da segunda célula radial. Halteres com capítulo amarelo e pedicelo negro.

Abdômen. — Uniformemente enegrecido. Uma só espermateca (Fig. 4) alongada, de contornos elípticos. O duto surge obliquamente, com a porção inicial afunilada e bem esclerotizada e a restante, longa e hialina. No seu conjunto, a espermateca se apresenta regularmente esclerotizada.

Macho. — Os mesmos caracteres morfológicos gerais observados na fêmea, com exceção dos característicos sexuais secundários.

Genitália. — (Fig. 5). Nono esternito curto e largo, apresentando na região central da margem posterior, um processo cônico-cilindrico que se prolonga distalmente, à maneira de um cartucho. Nono tergito de aspecto geral triangular, com a porção distal estreita, onde notamos evidentes processos apico-laterais com 3 a 4 cerdas cada um. Basistilos largos. Dististilos de comprimento aproximadamente igual ao dos basistilos. Mesosoma unido ao processo cônico-cilindrico do nono esternito e visível atrás e lateralmente a êsse processo. Nota-se uma formação central, com a forma de V invertido, muito esclerotizada, e um par de processos laterais alongados, com lobos ventrais e dorsais dirigidos posteriormente. Pincetas com dois processos basais simétricos, bem esclerotizados e articulados com os basistilos, e um processo central, filiforme, o qual se aloja no prolongamento cilindrico do nôno esternito, ultrapassando-o na extremidade distal.

Pupa. — Comprimento, ao redor de 2,0 mms. Côr geral, marron clara ou beige, de tonalidade mais escura no céfalo-tórax, principalmente na região dorsal do mesmo. Opérculo (Fig. 6)



Dasyhelea pusilia Lutz, 1913

1 — Segmentos flagelares; 2 — Palpo; 3 — Base da Asa; 4 — Espermateca; 5 — Genitália Masculina; 6 — Opérculo; 7 — Trompa respiratória; 8 — Terminações do Metatórax; 9 — Quarto segmento abdominal; 10 — Segmento Anal.

curto e largo, bem pigmentado e com abundante espiculosidade, constituida de pequenos elementos, cobrindo tôda a superfície do

segmento, inclusive os tubérculos A.M. Êstes, apresentam, além da referida espiculosidade, pequena e delgada cerda, pouco visível. Nota-se também, a presença de pequeno tubérculo ímpar na região mediana posterior. Trompa respiratória (Fig. 7) alongada, mais escura na extremidade distal, onde podem ser observadas 11 a 12 papilas respiratórias. Notam-se também, papilas esparsas ao longo do corpo da trompa, o qual se apresenta, exceção feita da sua extremidade distal, com numerosas dobras. Terminações do metatórax (Fig. 8) afastadas, deixando uma goteira entre elas, a qual serve de alojamento a um processo alongado pertencente ao escutelo. Quarto segmento abdominal (Fig. 9) com espiculosidade nas margens anterior e posterior, e com tubérculos espiniformes de ponta regularmente esclerotizada. Tubérculos L.P.M. presentes, embora não diferenciáveis dos demais que estão ao mesmo nível, e com os quais formam uma fileira contínua de tubérculos. Segmento anal (Fig. 10) alongado, com apêndices curtos e terminados em ponta aguda e bem esclerotizada, dispondo-se quasi horizontalmente. Na base dos referidos apêndices, nota-se a presença de dois pequenos tubérculos, com fina cerda cada um. Espiculosidade escassa e limitada à margem anterior.

Material examinado. — Alótipo macho, obtido a partir de pupa e procedente de São Vicente, Estado de São Paulo, Brasil, O. P. Forattini e E. X. Rabello col. em 20-X-1955, depositado na Coleção Entomológica do Departamento de Parasitologia da Faculdade de Higiene e Saúde Pública da Universidade de São Paulo, sob o número 11573.

30 exemplares (18 ♂♂ e 12 ♀♀), dos quais 24 obtidos a partir de formas pupais, das seguintes procedências: São Vicente, E. São Paulo, VI-1955, VII-1955, IX-1955, X-1955, XII-1955, I-1956 (Foratini e Rabello col.) 18 ♂♂ e 9 ♀♀; Município de São Roque, E. S. Paulo, VII-1950 (Forattini col.) 1 ♀; Município de Presidente Venceslau, E. S. Paulo, XII-1954 (Forattini col.) 1 ♀; Município de Itaguaí, E. Rio de Janeiro, II-1945 (Wygodzinsky col.) 1 ♀.

Discussão taxonômica. — Os exemplares examinados por nós coincidem, nos seus caracteres morfológicos, com a redescrição feita por Lane (1945). Quanto à pilosidade ocular, deve-se notar que o referido autor não poude verificar convenientemente êsse característico uma vez que, conforme êle mesmo assinala em seu trabalho, baseou-se no estudo de material exclusivamente montado em micro-alfinetes. Esta espécie apresenta o escutelo e o capítulo dos halteres, de côr amarela. Nesse particular, aproxima-se de *D. filibranchia* (Lutz 1914), da qual porém se diferencia pela coloração torácica e a abdominal que, nessa espécie, é casta-

nho-escura no mesonoto e abdômen, e amarelada nas pleuras (Lane 1945).

Hábitos. — As pupas de *D. pusilla* (Lutz) foram colhidas nos arredores da cidade de São Vicente e nos seguintes tipos de possíveis criadouros: mangue, valas de ruas, margem de canais, e buracos de crustáceos *Oedipleura cordata*. Convém assinalar que o teor em cloretos, das águas dêsses locais, variou consideràvelmente, obtendo-se desde valores como 9,7‰, até concentrações como 0,38‰. Parece, em vista disso, tratar-se de uma espécie adatada a vários tipos de criadouros, pelo menos no que concerne ao teor salino das águas. O seu encontro em locais do interior do Estado de São Paulo, vem reforçar, a nosso ver, essa hipótese.

Dasyhelea paulistana, sp. n.

Fêmea. — Comprimento, 1,5 mms. Asa, 1,0 mm. por 0,5 mm..

Cabeça. — Escura. Olhos negros e pilosos. Antenas negras. Tóro grande e bem esclerotizado. Segmentos flagelares (Fig. 11) apresentando evidente marcação escultural, sendo os de III a X mais curtos do que os XI a XV, dos quais, êste último é o mais comprido. Palpos (Fig. 12) curtos, com segmentos delgados dos quais, o III e V são os mais longos.

Tórax. — Côr geral, cinzenta. Mesonoto coberto uniformemente de pruinosidade cinzento-escura. Escutelo pouco mais claro, aparentemente sem pruinosidade. Pleuras escurecidas, de côr marron. Metanoto escuro e pruinoso.

Pernas. — Marron claras. Extremidade distal da tíbia posterior, com 6 cerdas robustas. T.R. 2,6.

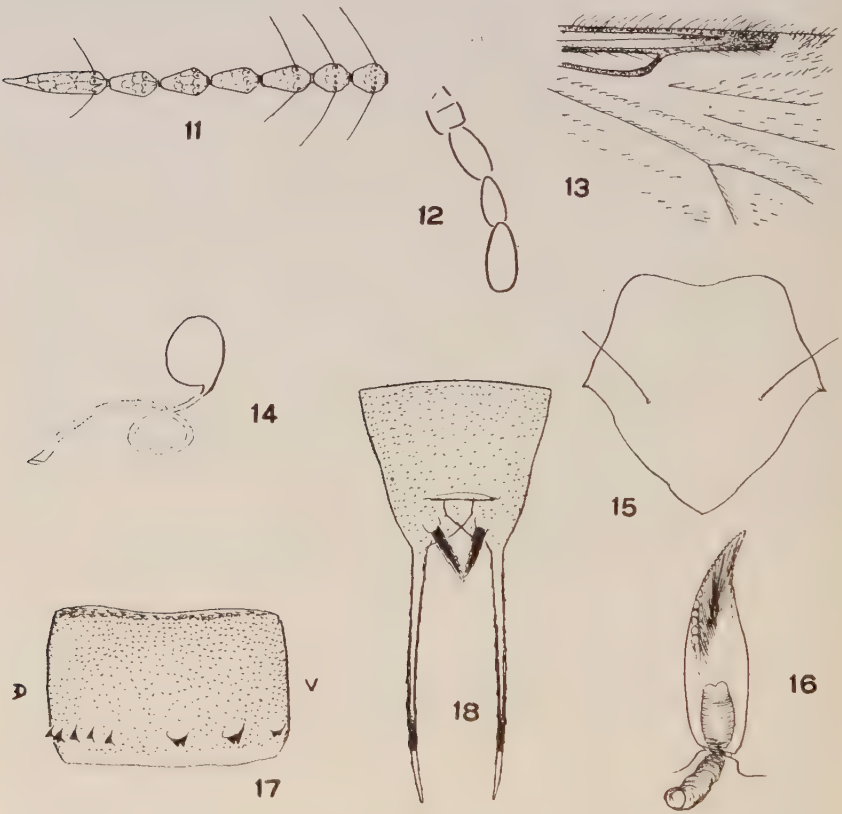
Asa. — Hialina, com pigmentação na segunda célula radial. Macrotríquias em tôda a superfície. Microtríquias muito pequenas e dificilmente visíveis. Primeira célula radial obliterada. Segunda célula radial (Fig. 13), com abertura pouco evidente, linear. Forquilha da veia Cu, ao nível da base da segunda célula radial. Halteres com capítulo de côr beige e pedicelo enegrecido.

Abdômen. — Uniformemente enegrecido. Uma só espermateca (Fig. 14), globosa, regularmente esclerotizada. A porção inicial do duto é afunilada e surge obliquamente do corpo da espermateca, continuando-se, após curto trajeto, em uma porção longa e hialina.

Macho. — Desconhecido.

Pupa. — Comprimento 2,0 mms. Côr geral, beige ou marrom clara, notando-se tonalidade ligeiramente mais escura nas trompas respiratórias. Opérculo (Fig. 15) curto e largo, de aspecto pentagonal, pouco pigmentado, sem espiculosidade. Tubér-

culos A.M. não visíveis, notando-se porém a existência de duas cerdas que se destacam com grande facilidade, por ocasião do manuseio para a montagem dêsse esclérito. Trompa respiratória (Fig. 16) curta, pigmentada, regularmente dilatada na metade basal, con-



Dasyhelea paulistana, sp n.
11 — Segmentos flagelares; 12 — Palpo; 13 — Base da Asa; 14 — Espermateca; 15 — Opérculo; 16 — Trompa respiratória; 17 — Quarto segmtnto abdominal; 18 — Segmento anal.

trastando nesse particular, com a metade distal que termina em ponta, e na qual podemos observar uma série de cêrca de 25 papilas respiratórias. Quarto segmento abdominal (Fig. 17) com abundante espiculosidade espalhada por tôda a sua superfície, e com tubérculos espiniformes de ponta esclerotizada. Tubérculos L.P.M. presentes, porém mal diferenciáveis dos demais e deslocados mais para a face ventral do segmento. Segmento anal (Fig. 18) curto,

de contorno trapezoidal e com apêndices bastante longos, à maneira de prolongamentos filiformes e terminados em ponta aguda. Na base dêsses apêndices, nota-se a presença de um tubérculo, no qual se implanta um processo espiniforme, esclerotizado, alongado e de bordas serrilhadas. Espiculosidade abundante e distribuida por tôda a superfície do segmento.

Material examinado. — Holótipo fêmea e 1 Parátipo fêmea, obtidos a partir de pupa e procedentes do Parque da Água Funda, Cidade de São Paulo, Estado de São Paulo, Brasil, O. P. Forattini e E. X. Rabello col. em 5-XI-1954, depositados na Coleção Entomológica do Departamento de Parasitologia da Faculdade de Higiene e Saúde Pública da Universidade de São Paulo, sob os números 11587 e 11588, respectivamente.

Discussão taxonômica. — Esta espécie aproxima-se de *D. monticola* Ingram e Macfie, 1931 e *D. lacustris* Ingram e Macfie, 1931. Delas, porém, fàcilmente se distingue pela coloração do mesonoto, que é quasi negra nas espécies acima mencionadas, ao passo que é cinzento-pruinosa na nossa. Outros caracteres diferenciais, podem ser encontrados na coloração dos halteres e do abdômen.

Dasyhelea viridans, sp. n.

Fêmea. — Comprimento, ao redor de 1,6 mms.. Asa, com cêrca de 0,9 mm. por 0,4 mm..

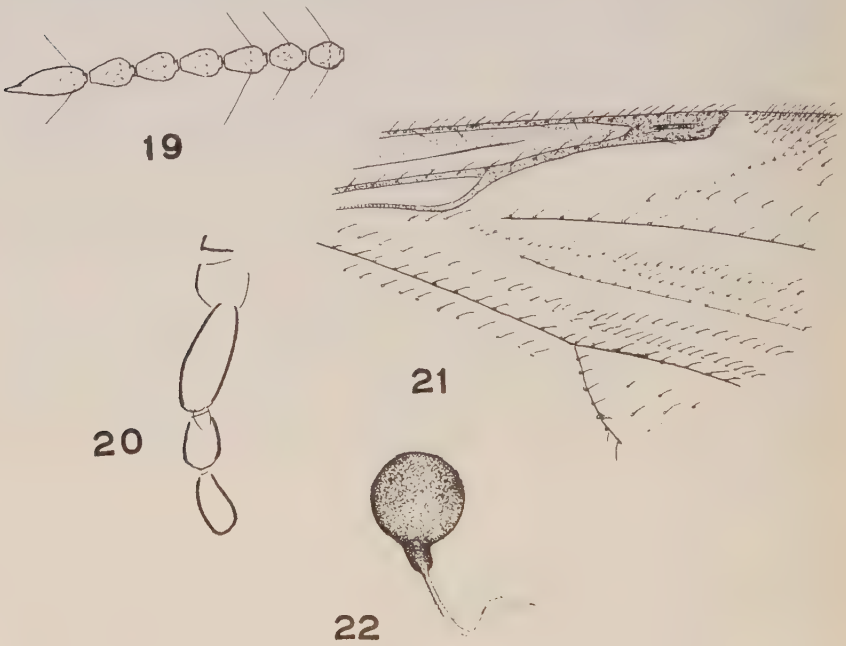
Cabeça. — Escura. Olhos negros e pilosos. Antenas marrom. Tóro grande e bem esclerotizado. Segmentos flagelares (Fig. 19), de comprimento pràticamente igual nos de III a X, havendo dêste último, para o XI, um ligeiro aumento de comprimento que se mantém constante até o XIV. O segmento XV diferencia-se por ser mais longo e largo do que os demais. Nota-se a presença de delicada esculturação nesses diversos segmentos. Palpo (Fig. 20) curto, com segmentos delgados, dos quais o III é o mais longo.

Tórax. — Escuro. Mesonoto, coberto de maneira uniforme, por uma pruinosidade cinzento-esverdeada. Ângulos humerais de côr beige. Escutelo beige nos lados e marron no centro. Metanoto com a mesma pruinosidade do mesonoto. Pleuras escuras.

Pernas. — Marron claras, apresentando-se porém, escuras, ao nível das articulações femuro-tibiais. Extremidade distal da tíbia posterior, com 6 cerdas robustas. T.R., ao redor de 2,6.

Asa. — Hialina, com setor radial apreciàvelmente pigmentado (Fig. 21). Macrotríquias em tôda a superfície e microtríquias muito pequenas. Primeira célula radial obliterada. Segunda cé-

lula radial presente, e com abertura linear. Forquilha da veia Cu, ao nível da base da segunda célula radial. Halteres com capítulo enfuscado na metade distal, bem assim como o pedicelo.



Dasyhelea viridans, sp. n.
19 — Segmentos flagelares; 20 — Palpo; 21 — Base da Asa; 22 — Espermateca.

Abdômen. — Enegrecido, principalmente na região dorsal, onde se apresenta de côr quasi negra. Uma única espermateca (Fig. 22), muito esclerotizada e esférica. O duto surge como pequena porção cilindrica, também muito esclerotizada, a qual logo se estreita, para continuar na porção fina e hialina.

Macho. — Desconhecido.

Material examinado. — Holótipo fêmea e 4 Parátipos fêmeas, coletados no quilômetro 47 da Estrada Rio-S. Paulo, Município de Itaguaí, Estado do Rio de Janeiro, Brasil, Wygodzinsky col. em XI-1944, depositados na Coleção Entomológica do Departamento de Parasitologia da Faculdade de Higiene e Saúde Pública da Universidade de São Paulo, sob os números 11589 a 11593, respectivamente.

Discussão taxonômica. — Esta espécie aproxima-se de *D. parahybae* Macfie, 1940, da qual porém fàcilmente se distingue, por

possuir esclerotização intensa da espermateca e pruinosidade esverdeada no mesonoto.

SUMMARY

The authors redescribe *Dasyhelea pusilla* Lutz including the description of male genitalia. They also describe two new species: *D. paulistana* and *D. viridans*. Some bionomic data are given, about breeding places of *D. pusilla*.

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NOTAS SÔBRE OS CURCULIONÍDEOS DA TRIBO *STERNECHINI* (*Col. Curculionidae*) (*)

POR

DARIO MENDES

Ex-Chefe da Secção de Entomologia Agrícola do I.E.E.A.

INTRODUÇÃO

Em prosseguimento às minhas três notas anteriores sôbre o gênero *Sternechus* Schoenherr (D. Mendes, 1956, p. 199), passo agora a estudar, sob o aspecto sistemático, os Curculionídeos da tribo *Sternechini* que fazem parte das coleções de Insetos do Instituto de Ecologia e Experimentação Agrícolas.

A lista das espécies aqui encontradas será acompanhada da distribuição geográfica dos exemplares examinados; farei, a respeito delas, os comentários que julgar desejáveis ou necessários, para melhor conhecimento das formas pertencentes aos gêneros de que me ocupo presentemente. Antes, porém, de enumerar as espécies, é mister que expresse o meu ponto de vista no que se refere à manutenção de *Sternechus* Schoenherr e *Tylomus* Schoenherr como gêneros distintos.

No decorrer dêste trabalho, ao referir-me ao COLEOPTERORUM CATALOGUS (CURCULIONIDAE: SUBFAM. HYLOBIINAE), pars 122, de W. JUNK e S. SCHENKLING, elaborado por K. W. von DALLA TORRE, S. SCHENKLING e G. A. K. MARSHALL, usarei apenas o nome JUNK acompanhado da data de 1932.

(*) Trabalho elaborado na Secção de Entomologia Agrícola do Instituto de Ecologia e Experimentação Agrícolas, com bôlsa de pesquisa fornecida pelo Serviço Nacional de Pesquisas Agronômicas.

STERNECHUS Schoenherr

Sternechus Schoenh., 1826. Disp. meth. Curc., p. 241; Schoenh., 1836, Gen. Spec. Curc., 3:472; Schoenh., 1843, idem, 7(2):353; Cast., 1840, Hist. Nat. Ins. Col., 2:347; Blanch., 1845, Hist. Nat. Ins., 2:119, 123; Lacordaire, 1863, Gen. Col., 6:447; Champion, 1902, Biol. Centr.-Amer., Col., 4(4):113 (= *Tylomus* Schoenherr); Casey, 1904, Canad. Ent., 36:224 (= *Plectromodes* Casey); Hustache, 1929, Faune Colonies franç., 3:238; Junk, 1932, p. 95.

Plectromodes Casey, 1895, Ann. N. York Acad., 8:829; Champion, 1906, Biol. Centr.-Amer., Col., 4(4):720.

Tylomus Schoenh., 1826, Disp. meth. Curc., p. 253; Schoenh., 1836, Gen. Spec. Curc., 3:477; Schoenh., 1843, idem, 7(2):363; Cast., 1840, Hist. Nat. Ins. Col., 2:347; Lacord., 1863, Gen. Col., 6:447, 448; Junk, 1932, p. 97.

O exame de muitas formas pertencentes aos gêneros *Sternechus* e *Tylomus*, em face do material que tenho em mãos, de várias outras coleções, veio convencer-me de que Champion (1902, p. 113) tem razão ao estabelecer a sinonímia dêsses dois gêneros, argumentando mais adiante que "*Sternechus* and *Tylomus* are connected by intermediate forms, there being a gradual transition from one to the other in the armature of the tibiae, and also in the relative length &c. of the antennae". Não obstante os autores que trabalharam no grupo posteriormente a Champion considerarem os gêneros em apreço como distintos um do outro, adoto o ponto de vista dêste entomologista, que pôs *Tylomus* na sinonímia de *Sternechus*, prevalecendo êste por prioridade de página. Pelo fato de haver algumas formas intermediárias entre os dois gêneros, numa transição gradual de uma para a outra na armação das tíbias, caráter de que se utilizou Lacordaire em sua chave para separar os dois supostos gêneros (1863, p. 447), *Sternechus decemmaculatus* Guérin, 1843 aut 1844, foi descrita também com o nome de *Tylomus guttatus* Germar, 1843, o que já suspeitava Lacordaire (1863, p. 448). Adiante tornarei a referir-me a esta espécie.

1. *Sternechus caliginosus* Boh. (1 ex.)
   Sternechus caliginosus Boh., 1843, in Schoenh., Gen. Spec. Curc., 7(2):357; Junk, 1932, p. 96.
   Distrito Federal.
2. *Sternechus fuscoaeneus* Boh. (2 ex.)
   Sternechus fuscoaeneus Boh., 1843, in Schoenh., Gen. Spec. Curc., 7(2):354; Junk, 1932, p. 96.
   Espírito Santo: Córrego Itá.
3. *Sternechus gonopterus* (Germar), comb. nov. (3 ex.)
   Orobitis gonopterus Germ., 1824, Ins. spec. noc., p. 246.
   Tylomus gonopterus Gyll., 1836, in Schoenh., Gen. Spec. Curc., 3:478; Gyll., 1843, in Schoenh., idem, 7(2):364; Cast., 1840, Hist. Nat. Ins. Col., 2:347; Junk, 1932, p. 97.
   Distrito Federal; Minas Gerais: Viçosa.

4. *Sternechus Guerini* Boh. (2 ex.)
Sternechus Guerini Boh., 1843, in Schoenh., Gen. Spec. Curc., 7(2):353; Junk, 1932, p. 96; D. Mendes, 1956, Rev. Brasil. Ent., 4:202 (= *Sternechus costalis* Heller).
Sternechus costalis J. Guérin, 1953, Coleópteros do Brasil, p. 196, est. 24, fig. 290.
Pará: Santarém.

Ao examinar os Curculionídeos das coleções do Departamento de Zoologia da Secretaria da Agricultura do Estado de São Paulo, tive em mãos um cótipo de *Sternechus costalis* J. Guérin, espécie descrita sumàriamente e figurada por J. Guérin (1953, p. 196, est. 24, fig. 290). No rótulo se lê o seguinte: *Sternechus costalis* m. i. l., Determ. Heller. Ora, tratando-se de forma " in litteris ", quem a descreveu e figurou pela primeira vez (J. Guérin) é o autor da espécie, à luz das regras internacionais de nomenclatura zoológica. Por êste motivo é que liguei aqui o nome de J. Guérin a *Sternechus costalis*, o que não havia feito anteriormente (D. Mendes, 1956, p. 202).

5. *Sternechus guttatus* (Germ.), comb. nov. (1 ex.)
Tylomus guttatus Germ., 1843, in Schoenh., Gen. Spec. Curc., 7(2): 363; Heyne-Taschenmb., 1908, Exot. Käf., p. 229, est. 31, fig. 2; Junk, 1932, p. 97.
Sternechus decemmaculatus Guér., 1843-44, Icon. règne anim. Ins., p. 146; Junk, 1932, p. 96.
Minas Gerais: Passa Quatro.

A leitura da excelente descrição de Guérin, de sua espécie *Sternechus decemmaculatus*, não deixa a menor dúvida de que esta forma e *Tylomus guttatus* Germ. são coespecíficas, como já suspeitava Lacordaire (1863, p. 448) e como já comentei na introdução dêste trabalho. *Sternechus decemmaculatus* só poderá ter sido descrita em 1843 ou 1844, pelas mesmas razões que já tive ocasião de apontar ao tratar de *Sternechus candidus* Guérin (D. Mendes, 1956, p. 200). Mesmo que tenha sido descrita em 1843, *Tylomus guttatus* tem prioridade, como se pode concluir da leitura da nota 1 de Lacordaire (1863, p. 48).

6. *Sternechus inconditus* Boh. (5 ex.)
Sternechus inconditus Boh., 1843, in Schoenh., Gen. Spec. Curc., 7(2): 360; Junk, 1932, p. 96.
São Paulo: Capital (Saúde, Mata do Govêrno); Rio de Janeiro: Itatiaia.

7. *Sternechus russatus* Boh. (1 ex.)
Sternechus russatus Boh., 1836, in Schoenh., Gen. Spec. Curc., 3:475; Boh., 1843, in Schoenh., idem, 7(2):357; Junk, 1932, p. 97.
Rio de Janeiro: Itatiaia.

8. *Sternechus Sahlbergi* (Boh.) (2 ex.)
Tylomus sahlbergi Boh., 1836, in Schoenh., Gen. Spec. Curc., 3:477.
Sternechus Sahlbergi Boh., 1843, in Schoenh., idem, 7(2):353; Junk, 1932, p. 97; D. Mendes, 1956, Rev. Brasil. Ent., 4:199 (= *Ster-*

nechus candidus Guér., 1843-44 = *Sternechus excellens* Heyne & Taschenb., 1908).
Sternechus candidus Guér., 1843-44, Icon. règne anim. Ins., p. 146; Junk, 1932, p. 96.
Sternechus excellens Heyne-Taschenb., 1908, Exot. Käf., p. 229, est. 31, fig. 1; Junk, 1932, p. 96.
Rio de Janeiro: Jussaral, Angra dos Reis.

9. *Sternechus sublaevicollis* Hust. (13 ex.)
Sternechus sublaevicollis Hustache, 1939, Arb. morph. taxon. Ent. Berlin-Dahlem, 6 (1):52.
Rio de Janeiro: Quilômetro 47 da Rodovia Rio-São Paulo; Itatiaia.

10. *Sternechus subsignatus* Boh. (5 ex.)
Sternechus subsignatus Boh, 1836, in Schoenh., Gen. Spec. Curc., 3: 476; Boh., 1843, in Schoenh., idem, 7 (2):360; Junk, 1932, p. 97.
Sternechus mrázi Voss, 1934, Sborn. ent. Odd. nár. Mus. Prace, 12: 103.
São Paulo; Santa Catarina: Rio Negrinho; Minas Gerais.

De posse da minuciosa descrição de Voss para *Sternechus mrázi,* pude fàcilmente concluir que esta espécie é sinônimo de *Sternechus subsignatus* Boh.

11. *Sternechus trachyptomus* (Germ.) (1 ex.)
Orobitis trachyptomus Germ., 1824, Ins. spec. nov., p. 247.
Sternechus trachyptomus Gyll., 1836, in Schoenh., Gen Spec. Curc., 3. 473; Gyll., 1843, in Schoenh., idem, 7(2):354; Cast., 1840, Hist. Nat. Ins. Col., 2:347; Junk, 1932, p. 97.
Distrito Federal: Senador Camará.

12. *Sternechus tuberculatus* Boh. (4 ex.)
Sternechus tuberculatus Boh., 1836, in Schoenh., Gen. Spec. Curc., 3: 474; Boh., 1843, in Schoenh., idem, 7(2):363; Champion, 1902, Biol. Centr.-Amer. Col., 4(4):114, est. 7, fig. 27; Junk, 1932, p. 97; D. Mendes, 1956, Rev. Brasil. Ent., 4:201, fig. 1.
Pará: Santarém; Bahia.

13. *Sternechus tuberosus* Boh. (3 ex.)
Sternechus tuberosus Boh., 1843, in Schoenh., Gen. Spec. Curc., 7(2): 362; Junk, 1932, p. 97.
Santa Catarina: Hansa-Humboldt; Minas Gerais: Passa Quatro, Cambuquira.

14. *Sternechus uncipennis* (Germ.) (4 ex.)
Liparus uncipennis Germ., 1824, Ins. spec. nov., p. 310.
Sternechus uncipennis Germ., in Schoenh., 1836, Gen. Spec. Curc., 3: 477; Schoenh., idem, 7(2):363; Dohrn, 1879, Stett. Ent. Zeit., 50: 365; D. Mendes, 1956, Rev. Brasil. Ent., 4:201, fig. 2.
Sternechus hamatus Boh., 1836, in Schoenh., Gen. Spec. Curc., 3:473; Boh., 1843, in Schoenh., idem, 7(2):362; Dohrn, 1879, Stett. Ent. Zeit., 50:365.
Bahia; São Paulo; Rio de Janeiro: Quilômetro 47 da Rodovia Rio-São Paulo

Hypnideus Pascoe

Hypnideus Pascoe, 1881, Ann. Mag. Nat. Hist., (3)7:301.

15. *Hypnideus circumductus* Pascoe (1 ex.)
Hypnideus circumductus Pascoe, 1881, Ann. Mag. Nat. Hist., (3)7: 301.

Hypnideus circumdatus Junk, 1932, p. 98.
Amazonas: Lago Acará, Borba.

O verdadeiro nome da espécie em apreço é, em obediência às regras internacionais de nomenclatura zoológica, *Hypnideus circumductus,* como se lê na diagnose original de Pascoe, e não *Hypnideus circumdatus,* tal como se acha grafado no catálogo de Junk.

ABSTRACT

Notes on the Curculionids of the tribe *Sternechini* (*Col. Curculionidae*).

In this paper the author studies a lot of Curculionids of the tribe *Sternechini* belonging to the "Instituto de Ecologia e Experimentação Agrícolas". He gives a checklist of species studied with their respective geographical distribution and considers *Tylomus* Schoenherr as a synonym of *Sternechus* Schoenherr, according to the point of view of Champion in 1904. He also considers *Sternechus decemmaculatus* Guér., 1843-44, as synonymous with *Sternechus guttatus* (Germ., 1843), and *Sternechus mrázi* Voss, 1934, as synonymous with *Sternechus subsignatus* Boh., 1836. Comments about some species are also made.

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NOVO GÊNERO E DUAS NOVAS ESPÉCIES DE CURCULIONÍDEOS (COLEOPTERA) DE FLÔRES DE MORÁCEAS

POR

GREGÓRIO BONDAR

Subfam. *Erirrhininae* Klima

Figura nesta subfamília o gênero americano *Phytotribus* Sch. 1843, erigido sôbre única espécie *P. unicolor* Boem. 1843. Lacordaire incluiu a segunda espécie *P. pallidus* Buquet, 1836. No Coleopterorum Catalogus de W. Junk, 1934, figuram no gênero quatro espécies, tôdas de Cayenna. Nenhuma tem dados biológicos. Hustache, 1940, descreveu no gênero duas espécies da Bahia, por nós fornecidas, evoluindo ambas nas inflorescências de palmeiras. Em nossas "Notas Entomológicas da Bahia" descrevemos mais dez espécies, criando-se tôdas nas inflorescências de palmeiras. É lícito concluir que o gênero *Phytotribus,* inclusive as espécies de Cayenna, evolue nas inflorescências de plantas Monocotiledôneas, principalmente em palmeiras.

Nas inflorescências de Moráceas, plantas Dicotiledôneas antiquadas, criamos na Bahia duas espécies de Erirrhinineos que, por muitos caracteres morfológicos pertenceriam ao mesmo gênero. Há, porém, diferenças essenciais, que nos obrigam formular gênero novo.

Moracetribus, gen. n.

Rostro robusto, subreto, do comprimento do protórax, estriado, subigual em ambos os sexos; escrobos post-medianos, oblíquos. Antenas mediocres; escapo clavado no ápice; funículo com dois segmentos basais longos, os restantes curtos; clava alongada, articulada. Olhos grandes, salientes. Protórax pouco mais longo do que largo, lados subretos convergentes para o ápice; colo preapical pronunciado e curto. Escudo triangular. Élitros mais largos do que o protórax e cêrca de duas vêzes mais longos do que

largos, estriados, ombros obtusos, lados subparalelos em dois têrços basais. Patas módicas, coxas fortemente intumecidas, unidentadas inferiormente; tíbias retas inermes, tarsos módicos, segmento 4 longo, liso, unhas divergentes. O segundo segmento abdominal de largura de dois intermediários juntos. Corpo esculturado, opaco pubescente, pequeno.

Genótipo: *Moracetribus cecropiae,* sp. n.

Do próximo gênero *Phytotribus* difere pelos élitros mais largos do que o protórax, pelo rostro não diferenciado nos sexos, olhos salientes e redondos e pela biologia, criando-se em Moráceas, daí o nome do gênero.

As duas espécies abaixo criamos em centenas de exemplares nas inflorescências, pseudo-espigas masculinas, de duas espécies diferentes de imbaubas, *Cecropia* sp., tendo cada espécie entomológica sua própria espécie botânica.

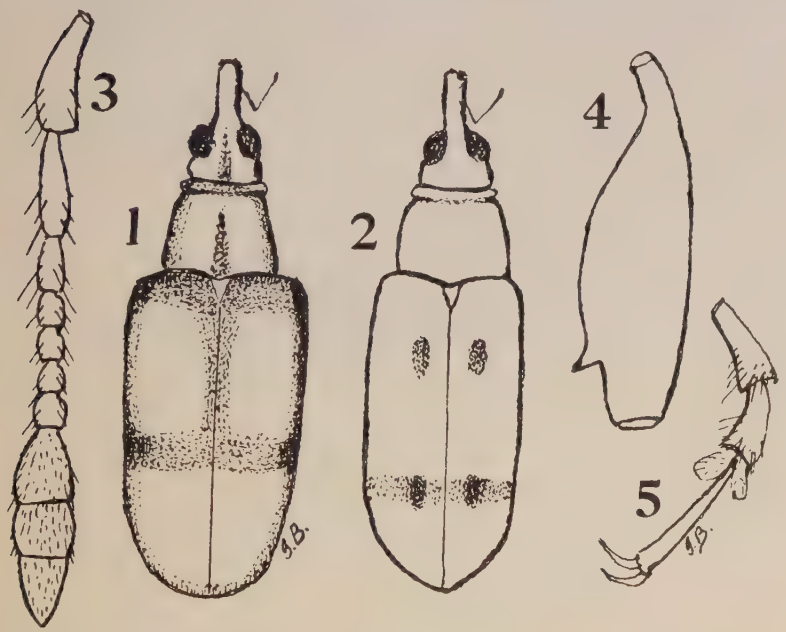
Foram descritas no Brasil 16 espécies de *Cecropia.* Em outras Repúblicas Centro e Sulamericanas são constatadas 21 espécies. Investigando a fauna das mesmas, pode-se prever que o número das espécies do novo gênero será muito ampliado.

Moracetribus cecropiae, sp. n.

Pequeno, piloso, inclusive nas patas; colorido variável de amarelo palha uniforme até indivíduos fortemente maculados de preto. Na maioria dos indivíduos há faixa transversal preta na base dos élitros, outra postmediana, ligadas pela faixa sutural; bordos dos élitros também obscurecidos. No prototórax há côr escura na linha mediana e lateralmente; o sulco do colo preto. Cabeça enegrecida na linha mediana. A pigmentação é mui variável na intensidade e extensão. Rostro áspero, estriado, pouco incurvo, achatado, da largura da fronte, subigual em ambos os sexos, lados paralelos. Palpos maxilares e labiais ultrapassam o rostro. Antenas postmedianas; escrobos ràpidamente inferiores, paralelos na face inferior do rostro; escapo longo, fino, clavado no ápice; funículo com segmento basal longo e grosso; o segundo do mesmo comprimento, porém fino; o terceiro pouco alongado; os restantes curtos, subiguais; clava fusiforme, segmentada, do comprimento de quatro segmentos precedentes. Cabeça irregularmente denso-redondo covinhada. Olhos grandes, pretos, redondos, protrusos, grosso granulados. Protórax pouco mais longo do que largo; colo curto e fundo, formando estreito sulco transversal; denso covinhado, esparso e fino piloso; pêlos maiores, esbranquiçados na base do protórax. Escudo grande, triangular, piloso. Élitros cêrca de duas vêzes mais longos do que largos, de um têrço mais largos do que o protórax; ombros obtusos, lados paralelos em dois têrços ba-

sais; ápice em conjunto obtuso arredondado; dorso sulcado; sulcos distantes, redondo covinhados; covinhas inermes; intervalos fino esculturados, esparso sedosos; carreira de pêlos maiores, distanciados em cada intervalo. Coxas dianteiras juntas; os três pares de fêmures fortemente engrossados e com dente no lado interno; tíbias retas; tarsos com dois segmentos basais longos, o terceiro curto, profundo bilobo, o quarto longo, de comprimento dos antecedentes; unhas longas, divergentes. Dimorfismo sexual não se nota.

Comprim. de 3 a 3,5 mm., largura 1,5 mm.



Esquema da configuração do corpo e de distribuição de pigmento em:
1 — *Moracetribus cecropiae,* sp. n.
2 — *Moracetribus sergio,* sp. n.
3 — Antena no gênero.
4 e 5 — Fêmur e tarsos.

Descrito sôbre mais de 500 especimens, criados pelo autor nas inflorescências masculinas caducas de imbauba, que consideramos como *Cecropia cinerea* Mig., em crescimento nos arredores da Capital da Bahia.

Cótipos no Instituto Oswaldo Cruz, Rio; no Instituto Biológico da Bahia e no de São Paulo, no U. S. National Museum em Washington, no Chicago Natural History Museum e no American Museum of Natural History em New York.

Biologia. Os adultos freqüentam inflorescências masculinas, recém abertas de imbauba, alimentando-se do polen. As fêmeas introduzem os ovos nas pseudo espigas; as larvas criam-se nos tecidos florais e no rachis. Quando as espigas caem no chão, as larvas estão em pleno desenvolvimento. As imbaubas floram no início de dezembro e a evolução do inseto leva cêrca de 20 dias. Vários Himenópteros parasitam as larvas.

Poucos anos atrás distribuimos a espécie pelas diversas instituições sob o nome de *Phytotribus cecropiae in litt.*, prevalece a nova denominação.

Moracetribus sergioi, sp. n.

Amarelo claro, na maioria unicolor; indivíduos pigmentados com esboço de duas máculas pretas no quarto basal dos élitros e duas postmedianas; estas, às vêzes, formam leve faixa transversal. Olhos grandes, pretos, protrusos, grosso granulados. Rostro pouco incurvo, de comprimento do protórax, cêrca de três vêzes mais longo do que largo, denso esculturado, achatado, pouco luzente, lados paralelos. Antenas postmedianas, longas, finas, pouco pilosas; escapo fino, clavado no ápice; segmento basal do funículo longo e grosso, o segundo fino, subigual em comprimento; os restantes curtos, turbinados; clava articulada, de comprimento de quatro segmentos precedentes. Protórax denso esculturado, subglabro, lados levemente arqueados, colo curto e fundo, formando sulco preapical. Escudo triangular. Élitros de um quarto mais largos do que o protórax, mais de duas vêzes mais longos do que largos, esculturados e sulcados; sulcos distantes covinhados; covinhas inermes; intervalos esparso sedosos; carreira de pêlos maiores, distanciados em cada intervalo; lados paralelos em dois têrços; ápices em conjunto arredondados. Fêmures dos três pares de patas grossos, unidentados. Tíbias retas, pilosas. Dois segmentos basais dos tarsos longos, o terceiro curto, bilobo; o quarto de comprimento dos três precedentes; unhas longas, divergentes.

Comprim. de 3 a 3,6 mm., largura de 1,2 mm.

Descrito sôbre 200 exemplares, criados pelo autor em pseudo-espigas florais masculinas de imbauba que consideramos como *Cecropia adenopus* Mart., nativa no Campo de Ondina, Bahia, em janeiro de 1954 e 1956.

Cótipos no Instituto Biológico da Bahia, no de São Paulo, no Instituto Oswaldo Cruz, Rio de Janeiro, no U. S. National Museum, Washington, no American Museum of Natural History, New York e no Chicago Natural History Museum.

Difere de *M. cecropiae* pela pigmentação do corpo, configuração mais estreita e pela biologia, criando-se em outra espécie botânica.

Dedicamos a espécie ao nosso neto Sérgio Bondar. Anos antes distribuimos a espécie com o nome de *Phytotribus imbaubae in litt.*

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RUTELIDOS NUEVOS O POCO CONOCIDOS
(Col. Scarabaeoid. Rutelidae) (1)

POR

M. A. VULCANO D'ANDRETTA (2) Y A. MARTÍNEZ (3)

Prosiguiendo con la identificación de los coleópteros lamelicornios laparósticos ya comenzada (4), en este trabajo nos ocupamos de algunos componentes de la interesante familia de los Rutélidos, consistiendo el mismo en la descripción de una nueva especie del vasto género *Leucothyreus* McLeay procedente de los Yungas bolivianos y, en la renominación de un género que, descrito en la vecina familia de los Dynastidae, recién en 1928 fué transferido a Rutelidae donde, por sus caracteres, corresponde estar.

Leucothyreus saksi, sp. n.

(Figs. 1-14)

DIAGNOSIS: — Próximo de *L. gabinius* y *semitonsus* Ohaus. ♂: Difiere del primero por presentar la región dorsal y, especialmente los élitros pelosos; la cabeza con el clípeo rugoso, la frente y occipucio punteados, pero los puntos mediocres y algo impresos, además, por detrás de la sutura clípeo-frontal, a cada lado, con una depresión y, medialmente un surco longitudinal impreso; el pronoto tiene los bordes laterales salientes y formando ángulo obtuso, por detrás del borde anterior y a cada lado de la línea media con una impresión ensanchada (en *gabinius* hay surco lateral in-

(1) Trabajo efectuado en la Divisão Insecta do Departamento de Zoologia, Secretaria de Agricultura do Estado de São Paulo.

(2) Sob los auspicios do Conselho Nacional de Pesquisas, Rio de Janeiro.

(3) Becario de la Universidade de São Paulo. Entomólogo de la M.E.P.R.A., Universidad de Buenos Aires, Ministério de Educación de la Nación y de la Administración Nacional de Bosques, Ministerio de Agricultura y Ganadería de la Nación, República Argentina.

(4) "Papéis Avulsos do Departamento de Zoología" 12:345-356, fgs. (1956). Rev. Bras. Ent. 4:185-194, fgs. (1956).

terrumpido en el medio), la puntuación es ocelada pero no fuerte; los élitros sin líneas de puntos (estrías) notables, con arrugas transversales cortas y puntos poco precisos que tienen pelos largos que son mas aparentes lateralmente; el pigidio es finamente rugoso transversalmente (fuertemente rugoso en *gabinius*), sin escamas laterales, aunque con pelos muy finos de color blanco, etc. De *semitonsus* lo reconocemos por no tener el pigidio fuertemente rugoso en el medio; la placa metasternal con fino surco longitudinal al que se le unen por delante, a cada lado, un surco también fino y oblicuo; genitales (Figs. 12-14) con los parámeros no fuertemente engrosados en la mitad, etc.

Alargado-oval. ♂ Dorsalmente brillante, la cabeza y pronoto castaño oscuro con levísimo reflejo cobrizo, en algunos ejemplares inaparente, los élitros difusamente castaño rojizos oscuros; la región ventral castaño rojiza poco mas clara que los élitros e irregularmente manchada de castaño píceo, con excepción del borde caudal del 5.º y todo el 6.º esternitos, el pigidio también del mismo color, pero lateral y superiormente con una mancha pícea ensanchada y aparente; palpos, antenas y patas castaño amarillento claros, con los trocánteres, articulación fémoro-tibial y tarsos, especialmente los medios y posteriores, poco mas oscuros. La pelosidad que cubre las diferentes regiones del cuerpo es blanco grisácea, excepto una hilera medial sobre el labro, la región central del " cepillo " del mentón, algunos pelos sobre el borde anterior del prosterno, la de las patas y los pelos erectos del pigidio que son amarillo dorado de intensidad variable. La ♀ es también dorsalmente brillante, con el colorido mas uniforme y píceo, salvo la región proximal de los fémures anteriores y región caudal de los fémures medios y posteriores, ápice distal de los mismos, tibias, tarsos y borde del 6.º esternito y pigidio que son castaño rojizo oscuros; la pelosidad es de coloración similar a la del ♂, pero el mentón ventralmente sin el " cepillo " de pelos y lateralmente con pelos dorados, teniendo la superficie levísimo reflejo cobrizo.

Descripción — ♂. Cabeza: Clípeo con el borde anterior en arco semicircular, a cada lado y posteriormente con una impresión poco notable, algo oblicua que se continúa sobre la frente y, lateralmente a ésa, con un pequeño tubérculo poco conspicuo que es atravesado transversalmente por la fina sutura clípeo-frontal que es irregular y poco notable. Superficie en el clípeo rugosa, las arrugas finas, transversales o algo oblicuas, poco marcadas; la frente anteriormente con escultura rugoso-punteada poco precisa e irregular, que hacia atrás se pierde, notándose únicamente puntos pequeños y ocelados que son mas abundantes sobre los bordes laterales; el occipucio con puntuación similar a la de la frente y poco

mas rala, excepto sobre el borde ocular y posteriormente donde los puntos son mas pequeños pero también mas aglomerados; en el clípeo y lateralmente en la frente y occipucio con pelos finos y erectos, ralos en estos últimos.

Región ventral en el labro anterior y mesalmente con una fina carena transversal bisinuada, que se prolonga hacia abajo medialmente; la superficie con escultura irregular y pelos finos, habiendo superiormente y en la región reflejada del clípeo pelos cerdiformes blancos. Mentón (Fig. 1-3) en la cara inferior con un acúmulo circulariforme de cerdas tupidas que marginan el borde caudal y, encontrando asimismo ornamentación similar en las máxilas (Fig. 8-9) y mandíbulas, siendo estas mas ralas en el clípeo y mejillas. Antenas (Fig. 4) con pelos finos, que son poco mas abundantes en el escapo y la cara interna del 8.º artículo, siendo muy ralos o ausentes en los 2.º a 5.º. Ojos muy grandes, esferoidales.

Tórax — Pronoto doble de ancho que largo, poco convexo; ángulos anteriores algo salientes, casi rectos y con el ápice ligeramente romo, ángulos posteriores notables, rectos; bordes marginados, los laterales muy finamente y con la mitad proximal un poco divergente hacia atrás y casi recta hasta la región mesal, donde forman ángulo obtuso evidente y desde ahí, dirigiéndose el borde hacia atrás y adentro hasta su convergencia con el borde caudal y siendo en arco levemente cóncavo, borde proximal levemente escotado y ligeramente bisinuado, el borde caudal en arco poco acentuado y levemente escotado a cada lado y lateralmente. Superficie con una impresión paramedial imediatamente por detrás del borde proximal y a cada lado de la zona mesal y otra impresión menos conspicua en la región de los ángulos caudales; la escultura está formada por puntos ocelados irregulares y mas o menos marcados y desordenadamente dispuestos y no muy aglomerados, que tienen cerdas finas y generalmente caducas, el margen del borde proximal con puntos finos y simples, dispersos.

Prosterno totalmente cubierto por cerdas largas, finas y tupidas.

Proepisternos con una región central impunteada y glabra, las regiones proximal y caudal con puntos ocelados notables que tienen cerdas acostadas y mas cortas y ralas que las del prosterno.

Mesonoto con el escudete ojival, lateralmente poco conspicuamente marginado, siendo el margen mas ensanchado distalmente; la superficie con puntos pequeños, ocelados e irregularmente dispuestos, que tienen algunos pelos cortos, generalmente caducos. Élitros alargados, convexos, mas o menos cuatro veces el largo del pronoto, con los surcos longitudinales poco notables y borrosos, lateral y basalmente con una impresión alargada que margina internamente el tubérculo " humeral " al que hace evidente, por detrás

de éste y lateralmente con una línea longitudinal algo engrosada y poco conspicua impunteada, que hacia atrás se pierde antes del callo distal, que es algo saliente y pequeño; la escultura está formada por puntos pequeños, ocelados y simples intercalados y desordenadamente dispuestos, bastante aglomerados, siendo a veces coalescentes y formando arruguitas transversales que son mas aparentes lateralmente, todos los puntos con pelos, que son ralos en el disco y mas largos y tupidos lateral y caudalmente; el tubérculo "humeral" algo alargado, punteado fina y simplemente, glabro; sutura elitral fina y poco evidente, algo ensanchada distalmente; epipleuras angostas y poco notables, la membrana lateral notable.

Mesosterno, mesoepisternos, metasterno y metaepisternos aglomeradamente punteados y cubiertos con cerditas acostadas y tupidas. El metasterno en el disco con depresión en la región caudal y medialmente con fino surco longitudinal glabro, al que convergen en el tercio anterior dos surcos, también finos y glabros, uno a cada lado, que bordean la depresión mesal; las regiones laterales con una zona angosta, transversal, entumecida, de forma arqueada, que es impunteada y glabra. Los metaepisternos con margen liso.

Patas anteriores con los fémures en la cara ventral con puntos, que en la parte caudal y lateralmente son mas notables, en la región mesal con una línea de puntos simples que se insinúa hacia adentro pero no alcanza el ápice proximal, antes del cual se pierde, todos los puntos con pelos finos y largos; tibias alargadas, debilmente arqueadas, el tercio distal lateralmente con tres dientes poco salientes y no aguzados, la superficie con pelos que son mas largos y tupidos ventralmente; espolón pequeño y espiniforme; tarsos (Fig. 7 y 11) del largo de la tibia, achatados, del 1.º al 4º subcordiformes y siendo el 2º el mas grande de todos, 5º subclaviforme, la cara ventral de todos cubierta de pelosidad tupida con aspecto de cepillo; uñas desiguales, arqueadas y aguzadas, la dorsal mayor y engrosada distalmente donde es hendida y forma un diente superior mas pequeño, la uña ventral simple. Patas medias con los fémures en la cara ventral con puntos ralos y peliferos, los pelos finos y cortos, sobre el borde caudal con una zona formada por estrías finas y muy aglomeradas que es mas ancha mesalmente, angostándose hacia el ápice distal; tibias semicilindroides, rectas, engrosadas distalmente, lateral y ventralmente con dos carenas paramedias y cortas: una oblicua y la otra en arco de concavidad posterior y ambas marginadas de cerdas con forma de púas, al igual que el ápice distal, el resto de la superficie de las mismas con pelos largos y finos, que son mas abundantes en la cara medial; espolones espiniformes, cortos, el dorsal no alcanzando el borde distal del 1er. artículo tarsal, los dos algo sinuosos; tarsos algo mas cortos que

la tibia, del 1º al 4º artículos en tamaño decreciente: 1º semicilindroide, 2º a 4º subcordiformes y con la cara ventral ornamentada como en los tarsos anteriores, la cara dorsal cubierta con numerosos pelos finos, 5º artículo arqueado, del largo del 1º aproximadamente y con toda la superficie cubierta de pelos largos y finos, pero sin formar cepillo o almohadilla; uñas arqueadas y aguzadas, la dorsal la mas pequeña y simple y la ventral mas grande y profundamente hendida en el ápice. Patas posteriores con la cara ventral de las coxas cubierta con pelos semejantes a los del metasterno; fémures bien mas largos que los precedentes, muy ralamente punteados y con algunos pelos y sin la zona estriada sobre el borde caudal; tibias y tarsos en todo similares a los de las patas medias, con excepción de que son un poco mas largas aquellas y las carenas laterales menos conspicuas y, en los tarsos estos poco mas angostos y el 1º bien mas largo que los restantes.

Abdomen — Esternitos 1º a 4º cubiertos de puntos pelíferos, los pelos acostados y muy tupidos en los 1º y 2º y lateralmente en los 3º y 4.º; 5º con pelos ralos en toda la superficie, salvo sobre los bordes laterales donde se aglomeran un poco y con el borde caudal membranoso, siendo esta membrana lobuliformes, aunque poco saliente en la región medial; 6º esternito el mas estrecho de todos, dispersamente pelífero, el borde caudal escotado y membranoso.

Pigidio ensanchado, convexo, transversalmente rugoso, las arrugas poco notables, estando intercaladas en una superficie microscopicamente coriácea y cubierta de pelos, que lateralmente son acostados, cerdiformes y de color blanco grisáceo y, que se van raleando hacia la zona mesal, donde hay intercalados entre ellos pelos largos, finos y erectos de coloración amarilla dorada no muy túpidos.

♀ — Brillante, negro de pez intenso excepto los palpos y antenas (Fig. 2, 5) que son castaño píceo, la pelosidad como en el ♂, pero con la cabeza glabra, el pronoto y élitros con pelos mucho mas ralos. Cabeza con el mentón sin el cepillo de pelos blancos y sin pelos de este color en el resto de las piezas bucales, siendo estos, por el contrario de color leonado dorado; los élitros son rasa y poco notablemente surcados; las tibias anteriores con los dientes laterales poco mas romos, especialmente el medial, el espolón mas grande y aplanado; los tarsos (Figs. 6, 10) simples, cilindroides, el ápice ventral de los 2º a 4º con pelosidad tupida, pero esta no tomando el aspecto de " cepillo " o " felpudo "; las uñas de los tarsos anteriores con la uña dorsal grande y profundamente hendida; 6º esternito con un surco premarginal no completo, fino y muy ralamente punteado; en lo demás similar al ♂.

Largo: ♂ 18-16,5 mm.; ancho del pronoto 6,5-5,5 mm.; ancho elitral 7,5-7 mm. ♀ 19-15,5; 6,3-5,5 y 8-6,4 mm. respectiva y aproximadamente.

Ejemplares examinados y procedencia 12 (9 ♂♂ y 3 ♀♀) todos de Bolivia, Departamento de Cochabamba, Pcia. de Chapare, Limbo 2000 metros de altura (Carretera Cochabamba-San Antonio, Km. 125), colecionados por A. F. Prosen y el autor "junior" en noviembre de 1953. Holotipo ♂, Alotipo ♀, 6 Paratipos ♂♂ y 2 Paratipos ♀♀ en la colección Martínez de Buenos Aires, Argentina; 1 ♂ Paratipo en la colección del Departamento de Zoología de la Secretaria de Agricultura do Estado de São Paulo, Brasil; 1 ♂ Paratipo en la colección del Sr. Alberto F. Prosen de Buenos Aires, Argentina.

Tenemos el placer de dedicar esta tan interesante especie al Dr. Samuel Saks, de São Paulo, Brasil, como prueba de sincera amistad.

Ottokelleria n. n. para *Pachylus* Burmeister, 1847

En 1837, Dejean en el "Catalogue des Coleoptères":180, propone el nombre de *Pachylus* para tres especies "in litteris", que no fueron descritas por él, quedando por lo tanto ése nombre como *nomen nudum*.

Dos años mas tarde, 1839, Kollar al describir un género de Opiliones (Araneae), emplea nuevamente el nombre de *Pachylus*, al que da validez sistemática.

En 1847, Burmeister en el "Handbuch der Entomologie" 5:23, trata a *Pachylus* Dejean como género válido, al que describe, al igual que dos de las tres especies mencionadas por el autor francés, dando de este modo valor nomenclatorial al género de Dejean. Desgraciadamente para Burmeister, que es aquien se debe atribuir el nombre de *Pachylus* para Coleoptera, éste nace invalidado por la anterior nominación de Kollar en 1839.

En 1856, Lacordaire en el "Genera des Coleptères" 3:395, vuelve a tratar de *Pachylus* y, en 1869, Gemminger et Harold en su "Catalogus Coleopterorum" 4:1240 lo mencionan, cayendo después en el olvido hasta 1928 en que Ohaus, lo transfiere de Cyclocephalini (Dynastidae) donde había sido incluído por Burmeister y Lacordaire, a Rutelidae, ubicándolo en los Rutelidae ortochílidos y en las proximidades de *Callichloris* y siempre como *Pachylus*.

Por último en 1944, Blackwelder, U. S. National Museum, Bulletin 185(2), lo omite tanto en Rutelidae donde había sido pasado por Ohaus, como en Dynastidae donde había sido descrito por Burmeister.

Como hasta el momento *Pachylus* para Coleoptera Scarabaeoidea Rutelidae no ha sido cambiado, proponemos para él el siguiente nombre:

Ottokelleria n. n. para *Pachylus* Burmeister, 1847, no Kollar 1839.

El presente nombre genérico es dado en homenaje a nuestro colega y amigo, Don Otto Paulo Keller, de São Paulo, Brasil, como prueba de sincera amistad y por la magnífica labor que viene cumpliendo como estudioso de la sistemática y biología de los Homoptera de la familia Cicadidae.

A continuación damos la bibliografía del género y de las dos especies con que actualmente cuenta el mismo.

Ottokelleria n. n.

Pachylus Dejean, 1837, Cat. Col., 3:180 (nomen nudum .
Pachylus Burmeister (no Kollar, 1839), 1847, Handb. Ent., 5:23.
Pachylus Lacordaire (no Kollar, 1839), 1856, Gen. Col., 3:395.
Pachylus Gemminger et Harold (no Kollar, 1839), 1869, Col. Cat., 4:1240.
Pachylus Ohaus (no Kollar, 1839), 1928, Deutsch. Ent. Zeitschr., :396.

Genotipo: *Pachylus dispar* Burmeister 1847, aquí designado.

Ottokelleria dispar (Burmeister), 1847 comb. n.

Pachylus dispar Dejean, 1837, Cat. Col., 3:180 (nomen nudum).
Pachylus dispar Burmeister, 1847, Handb. Ent., 5:24.
Pachylus dispar Lacordaire, 1856, Gen. Col., 3:395, t. 35, f. 4.
Pachylus dispar Gemminger et Harold, 1869, Cat. Col., 4:1240.
Pachylus dispar Ohaus, 1928, Deutsch. Ent. Zeitschr. :400, fg. 8.

Distribución geográfica: Brasil, Estados de Río de Janeiro, São Paulo y Minas Gerais.

Ottokelleria marginata (Burmeister), 1847, comb. n.

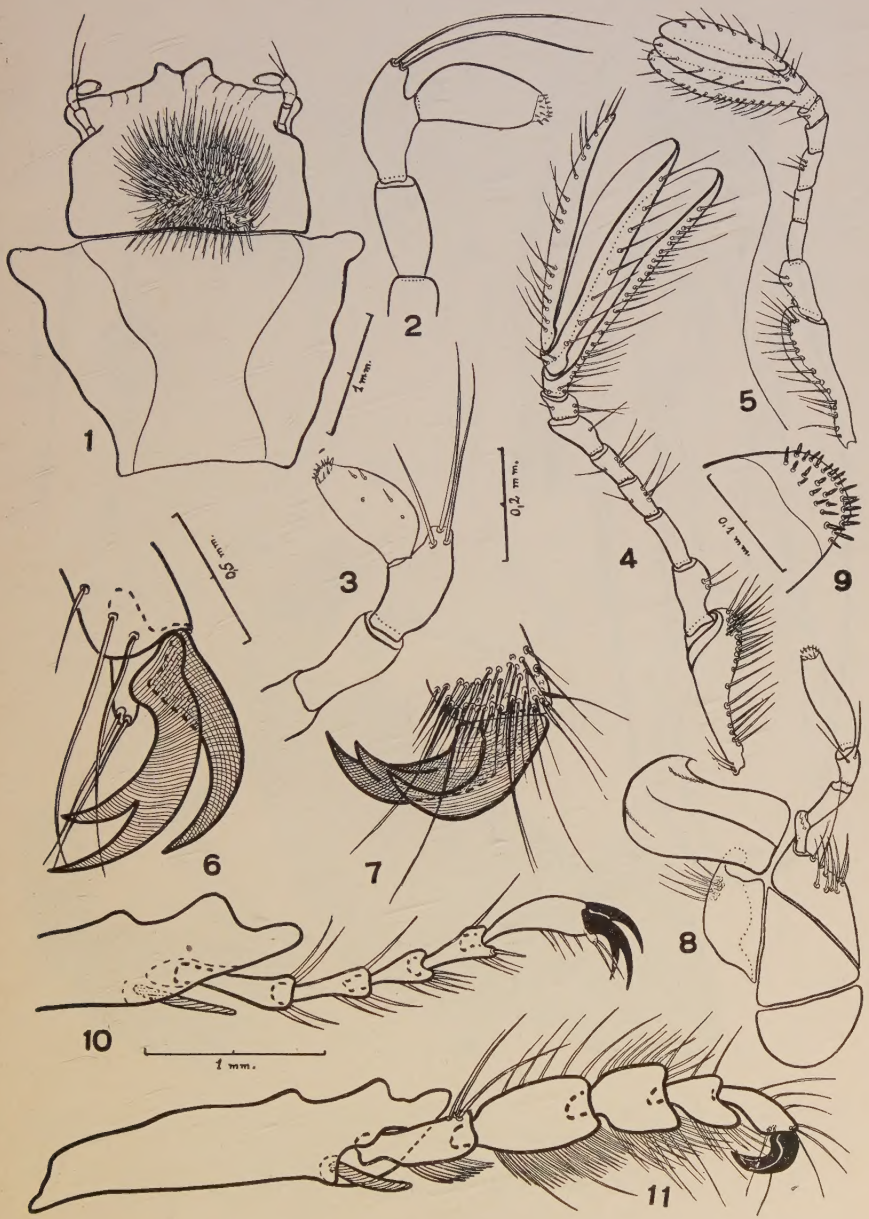
Pachylus marginatus Dejean, 1837, Cat. Col., 3:180 (nomen nudum).
Pachylus marginatus Burmeister, 1847, Handb. Ent., 5:24.
Pachylus marginatus Lacordaire, 1856, Gen. Col., 3:395.
Pachylus marginatus Gemminger et Harold, 1869, Col. Cat.., 4:1240.
Pachylus marginatus Ohaus, 1928, Deutsch. Ent. Zeitschr., :401, fgs. 7, 9.

Distribución geográfica: Brasil, Estado de Espirito Santo.

Para finalizar, el autor "junior" de este trabajo, agradece las facilidades que le fueron acordadas en el Departamento de Zoología.

Leucothyreus saksi, sp. n. — Fig. 1 - Labio (Mentón y palpos labiales), submentón y gula (norma ventral). Fig. 2 - Detalle de los palpos labiales ♀. Fig. 3 - Detalle de los palpos labiales ♂. Fig. 4 - Antena ♂. Fig. 5 - Antena ♀. Fig. 6 - Detalle de las uñas de las patas anteriores ♀. Fig. 7 - Detalle de las uñas de las patas anteriores ♂. Fig. 8 - Maxila. Fig. 9 - Detalle del ápice del último artículo de los palpos maxilares. Fig. 10 - Extremidad distal de la tibia y tarsos de las patas anteriores ♀. Fig. 11 - Extremidad distal de la tibia y tarsos de las patas anteriores. ♂.

Las figuras 2 y 3; 6 y 7; 4, 5, 8, 10 y 11 en la misma escala.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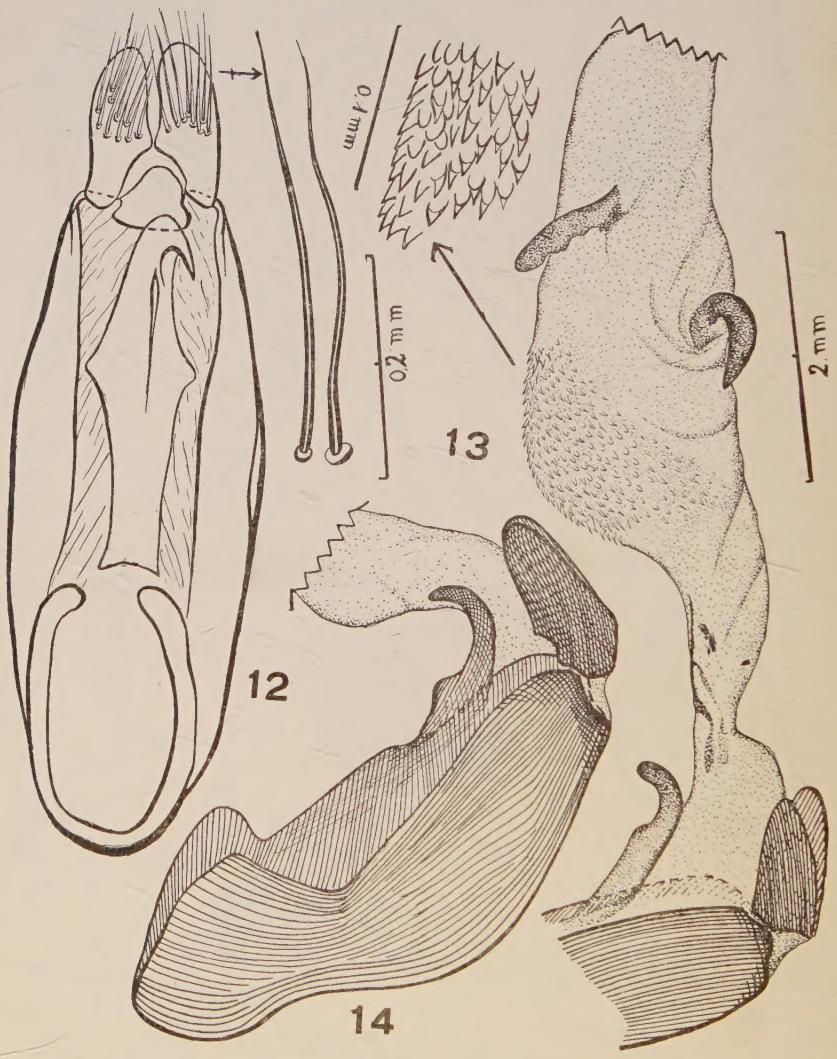

Leucothyreus saksi, sp. n. ♂ — Fig. 12 - Organo copulador, norma ventral, mostrando aumentadas las cerdas que se hallan en los parámeros. Fig. 13 - Parámeros y vesica desenvaginada, con detalle aumentado de la estructura de una parte de la región medial. Fig. 14 - Organo copulador, norma lateral.